ECONOMIC COMMISSION FOR EUROPE

ECONOMIC SURVEY OF EUROPE IN 1985-1986

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Prepared by the
SECRETARIAT OF THE
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PREFACE

The present *Survey* is the thirty-ninth in a series of reports prepared by the secretariat of the Economic Commission for Europe to serve the needs of the Commission and to help in reporting on world economic conditions.

The *Survey* is published on the responsibility of the secretariat, and the views expressed in it should not be attributed to the Commission or to its participating Governments.

The pre-publication text of this *Survey* was completed on 28 February 1986 and made available to the 41st session of the Economic Commission for Europe. The final text, incorporating minor changes, was completed on 21 April 1986.

EXPLANATORY NOTES

The following symbols have been used throughout this *Survey*:

A dash (—) indicates nil or negligible;

Two dots (. .) indicate not available or not pertinent;

An asterisk (*) indicates an estimate by the secretariat of the Economic Commission for Europe;

A slash (/) indicates a crop year or financial year (e.g., 1984/85);

Use of a hyphen (-) between dates representing years, for example, 1983-1985, signifies the full period involved, including the beginning and end years.

Unless the contrary is stated, the standard unit of weight used throughout is the metric ton.

The term ''billion'' signifies a thousand million.

References to dollars ($) are to United States dollars unless otherwise stated.

Minor discrepancies are due to rounding.

The following abbreviations have been used:

CMEA	Council for Mutual Economic Assistance
ECE	Economic Commission for Europe
EEC	European Economic Community
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
GNP	Gross national product
IMF	International Monetary Fund
NMP	Net material product
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
SDR	Special drawing rights

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Chapter 1

THE ECONOMIC SITUATION IN THE ECE REGION

1.1 A SLOWDOWN IN 1985

This section gives a global view of developments in the ECE region in 1985. The aggregate output of the ECE member countries grew by 2.5 per cent, as compared with 4 per cent in 1984. The trade of the region also increased more slowly.

(i) The main features of recent developments

In 1983-1984 there was an economic upswing in the *ECE region*. Output growth gathered momentum through 1983 and well into 1984, also boosting growth in the rest of the world. Within the ECE region the strength of the upturn was uneven: in western Europe output lagged behind the rising growth rates in North America and in the centrally planned economies. In the market economies the upswing did not, as in 1978, lead to overheating and the reappearance of inflationary pressures: instead, inflation rates continued to fall. Reflecting the uneven nature of the upswing, unemployment in western Europe continued to rise whereas in the United States it fell considerably. In the centrally planned economies the external constraints were loosened: output growth resumed while the current account balance continued to improve.

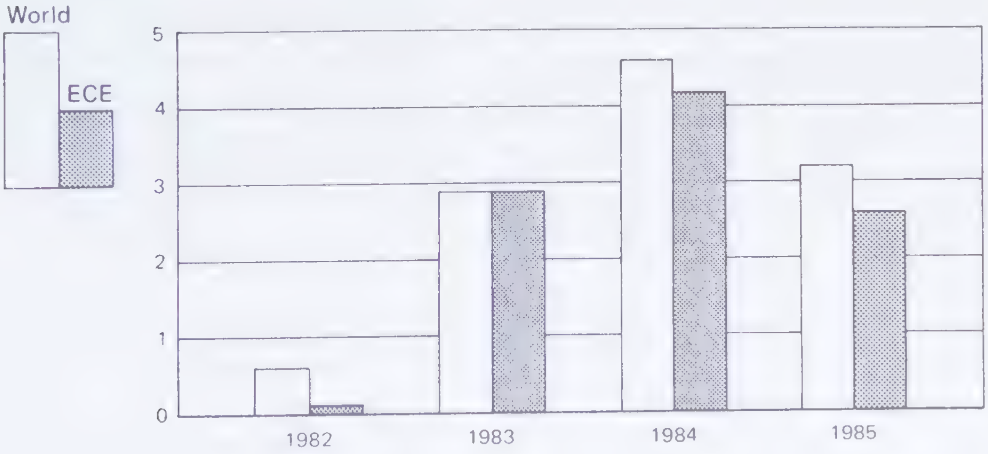
World output growth declined markedly in 1985 (chart 1.1.1). Since the average growth rate in the developing countries in 1985 remained much the same as in 1984 (it may even have increased slightly), the main factor behind the deceleration in the world output growth was the weaker growth in the ECE region: it fell from over 4 per cent in 1984 to around 2.5 per cent in 1985. This deceleration in the ECE region as a whole was largely due to the slowdown in the United States and, to a lesser extent, in the centrally planned economies, while in western Europe the average growth rate changed little between 1984 and 1985. An analysis of this diversity of experience in the ECE region yields several features which are of interest in assessing the prevailing situation and the prospects for the near future.

The present upswing in the *United States* attained its peak rate between mid-1983 and mid-1984. Measured from the demand side, the annual growth rate of real total domestic de-

CHART 1.1.1

Growth performance

(Average annual growth rate of total output) [a]



Source: ECE secretariat estimates; Department of International Economic and Social Affairs of the United Nations Secretariat.

[a] Output measure is real GDP for market economies and real NMP for centrally planned economies.

mand accelerated to some 10 per cent during this phase of the upswing, after which it fell back to a more moderate but still considerable pace. The growth rate of domestic demand remained strong in 1985, fluctuating around 3-4 per cent. Thus, in terms of demand the upswing lasted through 1985. However, on the output side the time profile of growth was more dampened. Although output responded to changes in domestic demand, it grew much less, particularly in 1985. On a year-to-year basis, real total domestic demand expanded in 1985 at an annual rate of about 3 per cent in contrast to output growth of about 2 1/2 per cent. The increasing gap between domestic demand and supply reflected the growing excess of imports over exports. The expected improvements in the competitiveness of the United States' economy following the depreciation of the dollar were not yet in evidence during 1985. From a dynamic cyclical point of view, it is interesting to note that the foreign balance was increasingly acting as a brake on output growth, while demand growth, although moderating, was still strong.

The relative importance of the various demand components has been changing during the upswing in the United States. Since 1982 private consumption has been a major contributor to output growth throughout the entire upswing. However, when total domestic demand grew very rapidly in 1983-1984, it was due to an exceptionally strong recovery of investment. Later, particularly in 1985, the growth of fixed investment fell back sharply and stockbuilding was reduced. It seems that the economic forces, which during the early part of the upswing induced a substantial acceleration in investment, quickly lost their strength. At the same time the restraint on investment from high real interest rates persisted, although monetary policy, judging by the more rapid growth of the monetary aggregates, seems to have eased during 1985. Furthermore, the stance of fiscal policy was still expansionary and contributed significantly to the continued expansion of demand.

In *western Europe* there was some recovery in economic activity from the recession in the early 1980s, but not enough to ease the unemployment which has reached unprecedented postwar levels. In fact, the recovery in output growth did not continue in 1985: on average it remained somewhat above 2 per cent, the same as in 1984.

In contrast to developments in the United States, the foreign balance was not in general a major factor shaping the recovery: the contribution of net exports to output growth was not important for western Europe, although on average it was positive and in 1983 was of relevance to the smaller economies. Output and domestic demand expanded broadly at the same pace. A notable underlying feature in the weak growth of total domestic demand in western Europe was that the recovery of investment from the recession was unusually weak. Consequently, the upturn in economic activity did not gather the same momentum as in the United States. In 1985 investment contributed little more than one tenth to the growth of output. Thus the sluggishness of growth was largely due to weak investment. Although private consumption in western Europe expanded more slowly than in the United States, it provided the main support to growth: in 1985 it contributed about one half of the increase in GDP. As regards the stance of economic policies, they did not change greatly. However, some easing in fiscal policy was evident and monetary policy became more accommodating. Nominal interest rates, on average, have been falling but, since inflation has been falling even faster, real interest rates have remained, in a longer-term perspective, relatively high.

In 1985 disinflation continued and even accelerated during the year. In western Europe inflationary pressures eased faster than in the United States. Inflation fell to rates previously experienced in the 1960s. The unexpectedly rapid rate of disinflation has created a new situation for economic policies. One of the major constraints on policies aiming at faster and stable growth, namely, the threat of inflation, on the whole no longer exists. This should eventually lead to a reassessment of the objectives of stabilization policies.

In 1985 exports gave considerably less support to growth in the *south European* countries than in 1984. Total output growth declined from over 2 1/2 per cent per year to a modest 2 per cent. Inflation and unemployment remained higher than in the rest of western Europe. However, policies to correct external balances have been successful: in 1985 the aggregate current account deficit of southern Europe had fallen to less than $1 billion, from over $14 billion in 1980.

In the *centrally planned economies* of the ECE region, the plans for 1985 indicated that economic growth was expected to continue at least at the rate attained during the two previous years. However, these expectations were not fulfilled. In 1983-1984, the average annual rate of increase of net material product (produced) was around 4 per cent, but in 1985 it fell to around 3 per cent. There was a slowdown in growth in all countries in question.

These shortfalls in output in 1985 partly reflect the severe winter during the early part of the year and, later, a weak agricultural performance caused by drought in some parts of the region. On the other hand, the acceleration in output growth, particularly in eastern Europe, during the preceding two years, was largely a rebound from a below-potential performance as supply bottlenecks and balance of payments constraints eased. The underlying growth of potential output has been expanding recently at an estimated annual rate of 3-3.5 per cent, below the actual growth of output. Developments in 1983-1985 can thus be interpreted as a fluctuation around the longer-term potential growth rate and the 1985 result would imply a performance below potential capacity. This, in turn, would suggest that there is some scope on the supply side for faster growth in the near future, even with an unchanged rate of growth of productivity.

In 1983-1984, with an improving world economic situation and faster growth in world trade, the centrally planned economies were able, applying cautious import policies, to improve their external balances and still allow an expansion in the domestic absorption of output produced. However, the share of the increase in output absorbed by net exports in 1984 varied considerably, from nearly 10 per cent in Romania to some 2 per cent in the Soviet Union. With slower output growth, the necessity for a considerable shift of output into the foreign balances and the high priority given to raising consumption have squeezed the resources available for investment during the last decade. Without exception, the share of output growth going to investment in 1983-1984 was far below its earlier share: in some countries the share of investment in total absorption had fallen to 10-15 per cent, compared with 25-30 per cent in the mid-1970s. In fact, the resumption of faster and more efficient investment growth as a necessary condition for speeding up the growth of productivity has been evident for some time.[1]

In 1985, there may have been a turnround in the pace of investment in the centrally planned economies. On the basis of still incomplete information, it seems that the volume of investment increased faster than output, i.e., absorbed a greater share of output growth. The plans for 1986 also point in the same direction of an acceleration of investment growth. As regards the volume of consumption, which is the other main component of domestic absorption, it seems to have grown on average in 1985 at least as fast as output, if not faster. Thus, the domestic absorption of output growth, by investment and consumption together, seems to have increased. This contrasts with developments in the immediately preceding years when the centrally planned economies were correcting their foreign balances. In 1985, the absorption of resources into the foreign balance fell sharply in these countries as a whole. In some cases it may have fallen to zero and hence the foreign balance might have begun to provide additional resources for domestic absorption. This shift to greater domestic absorption in 1985, however, was not merely a reflection of changing domestic priorities and, perhaps, inertia in the growth of domestic absorption. A slower growth of world trade, with a concomitant weakening of the export growth of the centrally planned economies, was another factor behind the shift.

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[1] See section 1.2(ii) below.

(ii) International impulses and imbalances

The upswing in world output in 1983-1984 gave, with a time lag, a strong stimulus to world trade in 1984 after three years of decline and stagnation. The pronounced rise in imports into the ECE region provided the major contribution to this trade recovery. Outside the region Japan was also an important source of world trade expansion. Much of the rapid rise in ECE imports was due to the United States. Buoyant domestic demand was the source of an unusually strong growth of imports into the United States. The countries benefiting most from the import boom in the United States were mainly outside the ECE region (Japan, the Asian developing countries and Latin America); the impact on exports from Europe was smaller as the trade of the European countries is dominated by intra-European trade. The subsequent large imbalance in the United States current account, which gave rise to increasing concern for the stability of the world economy, was the result of a combination of factors, including the relatively strong growth of output in the United States compared with the rest of the world and the continuing appreciation of the dollar. It is also important to note that in 1984 there was a further considerable improvement in the trade and current account balances of the non-oil developing countries.

In 1985 world trade growth lost much of its momentum as world output growth slackened. The rate of growth of trade was halved in comparison with 1984 (see table 1.1.1). As in 1984, the trade of the ECE region accounted for the major part of this deceleration. The main factor underlying trade developments in 1985 was the fall in the rate of growth of imports into the United States: at 7 per cent it was more than two thirds lower than in 1984, though still above the average growth rate of ECE imports. The changing business cycle situation in the United States, with a move to slower domestic demand growth, lay behind the fall in import growth. The effect of the depreciation of the dollar on the competitiveness of the United States economy had not yet had time to have an impact on imports. Neither was a positive effect on exports evident, as the volume of exports from the United States stagnated after growing 7 per cent in 1984. The growth rates of imports into western Europe and the centrally planned economies were broadly the same as in 1984.

TABLE 1.1.1

Trade developments
(*Annual percentage change, in volume*)

	1982	*1983*	*1984*	*1985*
World imports	−1.3	2.7	8.2	4.2
ECE imports	−0.2	4.8	10.1	6.2
ECE exports	−0.5	2.2	8.2	4.0

In the face of a slowdown in world trade, the developing countries did not cut back their imports, although the volume of their exports may have declined during the year. The erosion of commodity prices continued in 1985 and with stagnating or falling export volumes the financial situation of the developing countries worsened again, thus posing a renewed threat to the stability of the international financial system. While the terms of trade of the developing countries weakened, those of the ECE countries strengthened mainly because of the relative stability of the prices of manufactured exports.

In 1985 current account developments were dominated by the further widening of the United States' deficit, which closely reflected changes in the trade balance. The growth in the United States' deficit was mirrored in the widening Japanese surplus and, to a lesser extent, in the combined current account surplus of western Europe. However, the current account balances of the developing countries did not continue to improve in 1985.

In *east-west trade* the combination of rapid recovery in the exports of the centrally planned economies to the west and the modest rise in their imports from the west led to a growing eastern convertible currency surplus in 1983-1984. However, the recovery in eastern exports to the west suffered a setback in 1985. Both the weaker import growth in the west and the constraints on eastern export supply contributed to a sharp fall in eastern exports to the west. Since eastern import growth did not fall, trade balances worsened and eastern current account surpluses fell sharply in convertible currency.

1.2 THE NATURE OF THE PRODUCTIVITY PERFORMANCE IN THE LONGER-TERM PERSPECTIVE

The economies of the ECE region have suffered from a slowdown in productivity growth since the early 1970s. The decline in the market economy countries (1.2(i)) began somewhat earlier than in the centrally planned economies (1.2(ii)).

(i) Productivity in the market economies

After the Second World War productivity growth accelerated greatly in the market economies and high rates of growth were maintained until the early 1970s. Since then, however, the productivity performance has weakened considerably. This raises the interesting question of what lies behind this faltering of productivity growth. In the last few years the ECE secretariat has carried out some research on the subject and, largely on the basis of this work,[2] the present note provides a brief account and interpretation of recent developments. No attempt is made here to survey the extensive literature on the subject.

In the early 1970s weaker growth and the underutilization of existing productive resources were due to a number of factors including, for example, the collapse of the Bretton Woods system, the oil price shock and the emergence of high rates of inflation. The pervasive productivity slowdown in the market economy countries occurred in this period and, in fact, statistical analysis indicates that after 1973 there was a break in the trend of productivity growth.[3] Chart 1.2.1 shows clearly this deterioration both in western Europe and the United States. The growth of labour productivity in western Europe fell from an average of slightly over 4 per cent a year before 1973 to less than 2 per cent a year after 1973. In the United States the corresponding decline was from 2 per cent a year to close to zero.[4]

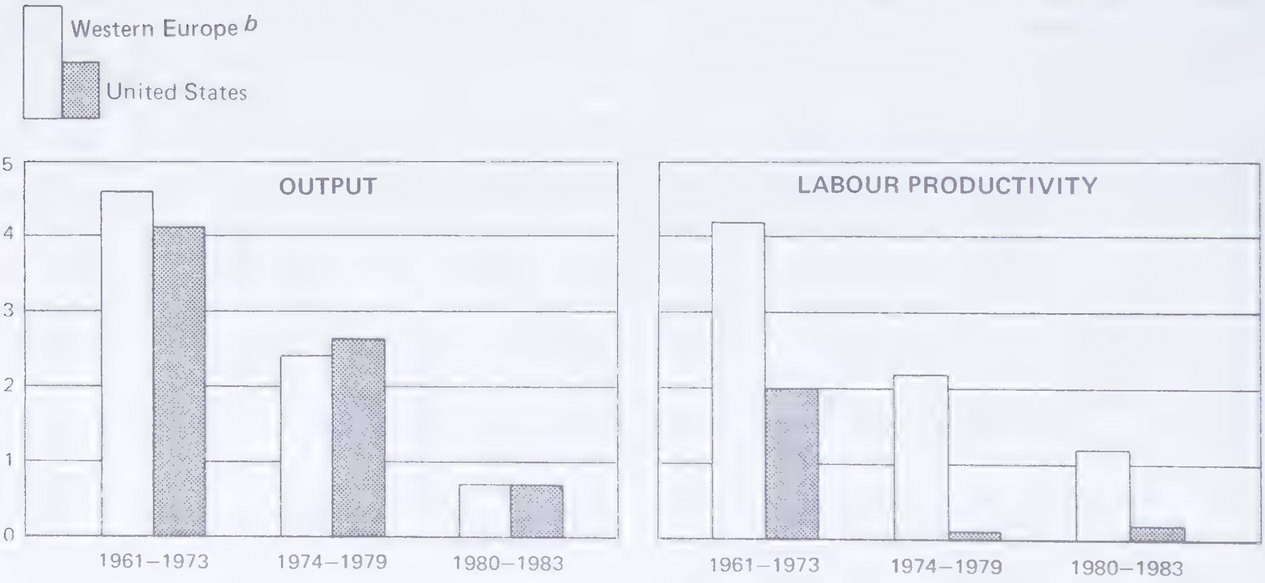
The 1974-1975 recession, induced by the oil shock, was followed by a recovery which was still incomplete when the second oil shock in 1979 led to a new and prolonged recession. The latter was amplified by the generally anti-inflationary stance of economic policies. These instabilities, both exogenously and endogenously induced, were largely responsible for the considerable deterioration in productivity growth after 1973, although longer-term factors affecting potential output may have also had an adverse impact.

Potential output cannot be directly observed but there are several ways of estimating it indirectly. Despite conceptual and methodological differences, various estimates for individual countries in a number of studies and reports all point to the same conclusion, namely, that the pace of potential output

CHART 1.2.1

Output and labour productivity [a] for the economy as a whole

(Average annual growth rates)



Source: UN, ECE data files.

a Output per person employed.

b Twelve countries.

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[2] On the latest research, see section 2.10 of this *Survey*.

[3] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, section 1.5(ii). In the United States there had already been a strong productivity slowdown in the latter half of the 1960s. See section 2.10 of this *Survey*.

[4] In Canada the drop in productivity growth was of the same order of magnitude.

growth generally fell after 1973.[5] Thus the weaker productivity performance, by dampening the growth of supply capacity, has reduced the longer-term growth potential of the market economy countries. However, the actual growth of output has lagged behind even this weaker potential momentum because of slack demand.

The slowdown in productivity growth has been pervasive not only across countries but also among sectors. On average the fall was of the same order of magnitude in both manufacturing and non-manufacturing industries.[6] The following discussion concentrates on the slowdown in manufacturing industry which is a major determinant of the changing pace of productivity in the economy as a whole.

It is common practice to measure productivity changes in terms of labour productivity (output in relation to labour input), although for a better understanding of the productivity slowdown this summary indicator is clearly not sufficient. As regards changes in labour productivity (in total manufacturing industry) table 1.2.1 shows a general decline after 1973; it also shows that the decline was concentrated mainly in the period up to the end of 1979. In the early 1980s the slowdown became less marked and in some countries, including the United States, there was even some acceleration of labour productivity growth, although it remained below the rates of the 1960s (for more detail see table 2.10.2 in section 2.10).

TABLE 1.2.1

Labour productivity [a] changes in manufacturing industry
(*Average annual growth rate*)

	Western Europe [b]	*United States*
1966-1973	6.4	2.8
1974-1979	3.9	1.5
1980-1983	3.2	1.8

[a] Output per hour worked.

[b] Ten countries.

In the 1970s the interaction of shocks, imbalances and economic policy reactions created a less favourable environment for capital formation than had prevailed in the two previous decades and investment weakened as a consequence. Total fixed investment in western Europe has remained sluggish since 1973; even the cyclical upturn in 1983 did not boost investment as it did in the United States. On the whole, investment in the United States after 1973 has been more vigorous than in western Europe.[7] As a reflection of weaker investment in western Europe there was a somewhat slower process of substitution of capital for labour between 1974 and the end of the decade (table 1.2.2). However, there was a rebound in the early 1980s, presumably following a more extensive shake-out of labour in manufacturing industry. Thus the slower pace of capital deepening seems to have been a factor in lowering labour productivity growth in the 1970s but not in the 1980s.

TABLE 1.2.2

Changes in capital intensity [a] in total manufacturing in industry
(*Average annual growth rate*)

	Western Europe [b]	*United States*
1966-1973	5.7	2.4
1974-1979	5.0	3.2
1980-1983	5.6	7.1

[a] Real gross capital stock per hour worked.

[b] Ten countries.

In the United States, in contrast, capital deepening accelerated after 1973, a reflection of more flexible labour markets and more buoyant investment than in western Europe. Thus, it seems to have provided a positive support to labour productivity growth offsetting other negative influences.

Although there have been some changes in the pace of capital deepening they cannot explain the general decline in labour productivity growth in western Europe and the United States. This does not of course exclude the possibility that the productivity of capital may have been deteriorating. The absolute decline in capital productivity (output in relation to capital stock) in many countries strongly suggests that this may in fact have been the case (see table 2.10.3 in section 2.10). Thus the capital deepening process may have become less efficient since the early 1970s from the point of view of improving productivity.

In addition to capital deepening, changes in total factor productivity also influence changes in labour productivity. As table 1.2.3 shows there has been a general decline in total factor productivity after 1973. It is interesting to note that labour productivity and total factor productivity have followed similar movements over time. This suggests that total factor productivity has been an important determinant of labour productivity growth. There was a large decline in the growth rate of total factor productivity between 1973 and 1979, after which there was some further slowdown in western Europe but a slight pick-up in the United States. However, as table 2.10.3 in section 2.10 shows, developments in western Europe in the early 1980s were far from uniform: there were even a few countries where, like the United States, there was some recovery in the growth of total factor productivity.

TABLE 1.2.3

Total factor productivity [a] in manufacturing industry
(*Average annual growth rate*)

	Western Europe [b]	*United States*
1966-1973	4.5	2.2
1974-1979	2.6	0.8
1980-1983	1.9	0.9

[a] See section 2.10 for method of calculation

[b] Ten countries.

Owing to slack demand after 1973 the degree of resource use was generally reduced, particularly during the prolonged recession in the early 1980s.[8] This obvious decline in efficiency underlines the slowdown of total factor productivity. For some countries the ECE secretariat has also estimated changes in total factor productivity after adjusting for variations in capacity utilization (see table 2.10.3, section 2.10). These estimates suggest that the growth of total factor productivity

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[5] For example, an estimate for the Federal Republic of Germany shows that potential output growth decreased sharply from 4.5 per cent in the 1960s to 2.6 per cent in the latter half of the 1970s. *Monatsberichte der Deutschen Bundesbank*, Nr. 10, Oktober 1981, pp. 32-38. See also *Economic Report of the President*, January 1981, Washington, D.C., 1981, table 27, and United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, New York, 1982, table 1.1.28, and *Economic Survey of Europe in 1984-1985*, New York 1985, table 2.2.5.

[6] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, New York, 1982, table 1.1.27.

[7] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, section 2.2(iii).

[8] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984, table 1.2.11.

TABLE 1.2.4

Relative contributions to changes in labour productivity growth in manufacturing industry

Country	*Period*	*Change in labour productivity (percentage points)*	*Case*[a]	*Percentage contribution of changes in*	
				Capital intensity	*TFP growth*[b]
Austria	1964/73 vs 1973/82	−2.9	I	34	66
Belgium	1963/73 vs 1973/83	−2.0	I	45	55
			II	65	35
Canada	1961/73 vs 1973/83	−3.1	I	−16	116
			II	26	74
Denmark	1956/73 vs 1973/81	−3.4	I	15	85
Finland	1961/73 vs 1973/83	−1.4	I	7	93
France	1963/73 vs 1974/83	−2.3	I	4	96
			II	30	70
Germany, Federal Republic of	1961/73 vs 1973/83	−2.7	I	41	59
			II	52	48
Italy	1961/73 vs 1973/83	−4.9	I	16	84
Netherlands	1961/73 vs 1973/83	−2.4	I	46	54
Norway	1963/73 vs 1973/83	−3.0	I	−10	110
Sweden	1963/73 vs 1973/83	−3.9	I	18	82
United Kingdom	1961/73 vs 1973/83	−1.3	I	−31	131
United States	1961/73 vs 1973/83	−1.7	I	−35	135
			II	−6	106

Note: The contribution of the capital-intensity factor also includes the effects of the changes in the output elasticity of capital.

[a] I—without capacity utilization adjustment; II—with capacity utilization adjustment.

[b] Total factor productivity.

could have been higher after 1973 had there not been an increase in unused resources. Thus the "true" fall in total factor productivity growth was probably less than suggested by the estimates shown in table 1.2.3, but it was still an important factor in the slowdown of labour productivity growth.

The relative contributions of changes in capital intensity and total factor productivity to the slowdown in labour productivity growth are shown in table 1.2.4 for individual countries. Three groups of countries can be distinguished. In the first, all of the slowdown in labour productivity growth is accounted for by a corresponding decline in total factor productivity growth and changes in capital intensity partially offset the slowdown in total factor productivity growth. This group consists of the United States, the United Kingdom, Norway, Canada and France. However, in Canada and France the adjustment for capacity utilization matters a lot. In fact, after the adjustment, nearly one third of the slowdown is accounted for by changes in capital intensity.

In the second group changes in labour productivity are largely (80 per cent and more) accounted for by total factor productivity. This is the case for Denmark, Finland, Italy and Sweden. Unfortunately, it is not possible to adjust for capacity utilization in these countries: if it were it would probably increase the importance of the capital-intensity variable in accounting for the slowdown.

Finally, there is a third group of countries where capital intensity contributed some 30-50 per cent to the decline in labour productivity growth. This last group comprises Austria, Belgium and, notably, the Federal Republic of Germany. It should be recalled that when adjusting the capital stock for changes in utilization rates Canada and France also fall into this group.

The estimates presented in table 1.2.4 show clearly that the decrease in total factor productivity growth has generally been the main factor behind the fall in labour productivity growth.

In the period from the end of the Second World War until the early 1970s, stable and buoyant demand conditions were a major influence on the strong productivity performance. The experience of stable developments created a business climate in which expectations of future growth strengthened and risks of serious recessions were reduced as governments were committed to full employment. This contributed to a faster rate of fixed investment and thus to a more rapid exploitation of technical progress. High demand also drove out resources from low productivity activities and consequently improved total efficiency. After 1973 conditions changed markedly. Sudden changes in relative prices,[9] inflationary pressures, lower levels of demand and restrictive economic policies created a less favourable climate for growth. This new situation had an adverse impact on investment and reduced the efficiency of resource allocation. The radical change in the overall economic situation produced, as described above, a sharp decrease in labour productivity growth. A statistical test of the so-called Verdoorn Law, which postulates a direct relationship between productivity growth and output growth, indicated that it was valid both before and after 1973. In particular, a cross-section analysis of individual industries suggested that the deceleration of productivity growth in manufacturing industry after 1973 was associated with the widespread fall in output growth.[10]

With the ending of the slowdown in productivity growth in the early 1980s it would seem that a major part of the deceleration was caused by cyclical and other factors of a relatively short-term character. The pace of the underlying rate of technical progress has presumably not been damaged to the same extent as the apparent productivity indicators would suggest. The key problem is clearly insufficient infestment. More investment is needed to increase productive capacities and to accelerate the diffusion of new technologies. A move away from

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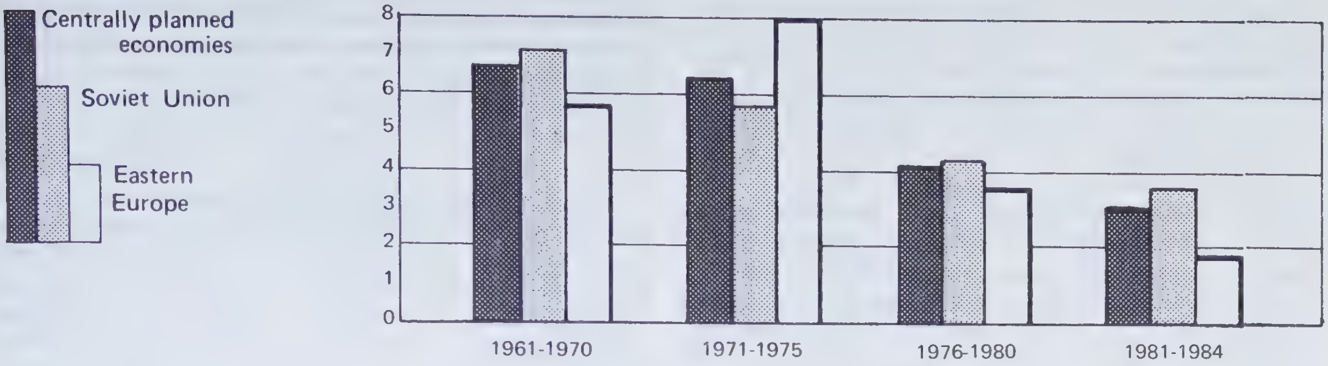
[9] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, section 1.5(iii) and *Economic Survey of Europe in 1983*, New York, 1984, section 1.5.

[10] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, New York, 1982, section 1(vi).

CHART 1.2.2

Output growth in the centrally planned economies

(Average annual output growth)



Source: ECE data files.

present economic policies towards a more expansionary stance and a commitment to stable growth would improve business confidence in the possibility of sustained growth and thus encourage a faster rate of investment. This in turn would improve the efficiency of resource allocation and raise productivity in general.

(ii) Productivity in the centrally planned economies

Since the 1960s there has been a marked deceleration in the rate of economic growth of the centrally planned economies. In the first half of the 1970s output growth in the material spheres of these economies (measured by changes in net material product, NMP) was on average still only slightly below the rate achieved in the 1960s. However, there was a general deceleration in the second half of the decade and this has continued into the 1980s. As a result, the average annual rate of NMP growth in 1981-1984 (3.1 per cent) was less than half the rate between 1961 and 1970 (6.7 per cent). The average growth rate in eastern Europe fell from 5.7 per cent in the 1960s to 1.8 per cent in the 1980s, whereas in the Soviet Union the decline was relatively less, from 7.1 per cent to 3.6 per cent (see chart 1.2.2).

Several kinds of influence have been operating on the overall productive performance of the centrally planned economies and only some of the more important ones can be identified in this brief review. The focus here is on the longer term and, therefore, the impact of some of the short-term factors, including the external constraints in the early 1980s, is not discussed.[11] The development of the centrally planned economies should, of course, be seen against the background of the disturbances in the world economy in the 1970s and in the early 1980s, but the economic forces that have shaped the course of productive activity have mainly been of domestic origin. Since the centrally planned economies are fundamentally full-employment economies it is natural to regard supply-side factors as the dominant ones in their economic performance, in contrast to the emphasis on demand in the market economies.

Although the relationship between demographic trends and economic activity is not a direct one, recent demographic changes have had a marked, constraining influence on the potential for economic expansion in the centrally planned economies. This is generally acknowledged in economic policy strategies which put greater emphasis on productivity gains as a source of growth. The decline in the rate of increase of the working-age population has been dramatic: its average annual growth rate in 1981-1985 was only half the corresponding rate in the 1970s. Labour force estimates (table 1.2.5), which take into account changes in participation rates, show a fall in growth rates in the first half of the 1980s. When labour is fully employed changes in actual employment should closely follow developments in the underlying labour force. However, labour supply has also been affected by the relative shifts of employment from the material to the non-material sphere in all the economies concerned. Due to these shifts the rates of growth of employment in the material sphere have been falling since the 1960s. In recent years the effect of the slowdown in labour force growth has been superimposed on this relative decline of employment in the material sphere. As a result, the average annual growth of employment in the material sphere has fallen from 1.5 per cent in the 1960s to 0.3 per cent in 1981-1984. Recently employment in the material sphere has even declined in several of the countries under review.

TABLE 1.2.5

Labour force in the centrally planned economies

(Average annual growth rate)

	1961-1970	*1971-1980*	*1981-1985*
Eastern Europe	0.8	0.8	0.6
Soviet Union	1.1	1.1	0.9
Total	1.0	1.0	0.8

Source: ECE data files.

With a falling net inflow of labour into the production process in the material sphere the expansion of output depends to an increasing extent on improvements in labour productivity. However, the growth of overall labour productivity has not accelerated. Instead, after a period of steady average growth (with somewhat different tendencies in eastern Europe and the Soviet Union), there was a general deceleration in the latter half of the 1970s (table 1.2.6).

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[11] These have already been analysed by the secretariat. See, in particular, United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, section 3.6.

TABLE 1.2.6

Labour productivity [a] in the material spheres of the centrally planned economies
(Average annual growth rate)

	1961-1970	*1971-1975*	*1976-1980*	*1981-1984*
Eastern Europe	4.9	7.3	3.4	2.1
Soviet Union	5.1	4.1	3.2	3.1
Total	5.1	5.1	3.3	2.8

Source: ECE data files.

[a] Output per person employed.

In the 1970s the fall in output growth was at first mostly a reflection of the slowdown in the labour inflow, but later on lower labour productivity growth also contributed to the downward trend. Although policies since the mid-1970s have aimed more than before at the "intensification" of economic activity, increases in labour productivity have remained below the targets set in the individual national plans for 1976-1980 and 1981-1985. Some of the main reasons for this unexpected deterioration in the productivity performance of the centrally planned economies can be identified.

Changes in the summary measure of labour productivity (the ratio of output to labour input) reflect not only the productivity of labour as such, but also the influence of the productivity of the other factors of production, the efficiency with which they are used, and the rate of technological progress. If it is assumed that improvements in labour quality have continued at an unchanged pace (due to higher educational and skill attainments of the labour force), elements other than the performance of labour itself must have played a more crucial role in the slowdown.

To sustain an unchanged input contribution to output growth, the deceleration of employment growth necessitated a speeding up of the capital-deepening process (that is, an increase in capital intensity). However, investment growth has been reduced since the mid-1970s and the scope for capital deepening has been constrained more than before, despite some improvements in the investment process in recent years. [12] Available statistics on capital-intensity in the material sphere (see table 1.2.7) show, in fact, somewhat contradictory tendencies for individual countries. Nevertheless, they provide little proof of a definite increase in capital deepening compared with the 1960s; if anything, a slowdown is in evidence in the early 1980s. Indeed, enterprises appear to be keeping older machinery and equipment in service in order to compensate for the shrinking possibilities of capital renewal. [13] Such a slower rate of capital equipment write-offs would inflate the capital intensity figures and result in an aging of the capital stock. [14] If data on the capital stock measured in efficiency units were available, they might indicate a lower rate of growth of capital intensity than the published statistics in recent years. The required speeding up of the capital-deepening process to maintain output growth under conditions of decreasing growth of employment does not, in general, appear to have been achieved. Without other influences at work this would have been enough to cause a decline in the growth of output and, possibly, also of labour productivity.

TABLE 1.2.7

Capital intensity [a]
(Average annual percentage change)

	1961-1970	*1971-1975*	*1976-1980*	*1981-1983*
Bulgaria	10.4	8.7	8.1	6.8
Czechoslovakia	3.4	4.4	5.6	5.4
German Democratic Republic	5.6	5.7	5.1	5.4
Hungary	3.4	6.3	7.2	4.5
Poland	3.6	6.3	7.0	3.4
Romania	9.3	11.5	10.2	8.8
Soviet Union	8.1	7.6	6.3	6.2

Sources: Calculated on the basis of data in *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA Yearbook) 1984, pp. 17-34, 42; 1985, pp. 41-55, 61.

[a] Fixed assets per person employed in the material sphere.

Despite the constraints on the rate of capital deepening, the consequences for the expansion of output would have been less dramatic had the substitution of capital for labour worked smoothly. However, changes in the widely used indicator of capital productivity (the ratio of output to fixed assets) suggest that the contribution of capital input to output has deteriorated in the centrally planned economies: for all the centrally planned economies, capital productivity in the material sphere has been declining. [15] More precisely, the available econometric evidence relating to industrial production indicates a weak elasticity of substitution between capital and labour [16] which, in turn, implies that increases to the capital stock have been subject to decreasing returns. [17] In these conditions an ever faster growth of the capital stock would have been required to compensate for losses in output growth due to falling employment growth. Since this did not occur, as was indicated by the above analysis on capital intensity, it can be concluded that the combined volume growth of labour and capital has had, *ceteris paribus*, a retarding effect on output growth. In addition it can be inferred that changes in capital intensity itself have contributed to the slowdown in labour productivity growth. This is evident from the beginning of the 1980s when growth rates of capital per person employed have been declining. But it may also be true for periods of constant or increasing capital-intensity growth because of a (more than offsetting) decline in the output elasticity of capital. However, it is difficult to establish reliable estimates of the orders of magnitude that are involved here. [18]

Changes in total factor productivity have also played a role in what has happened to output and labour productivity. Increases in total factor productivity include two types of influence on production:[19]

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[12] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, section 4.4.

[13] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, section 3.6.

[14] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, section 4.4. The issue of economically obsolete capital stock is well recognized in current economic discussion. For example, the GOSPLAN Head, First Deputy Prime Minister N.V. Talysin, in a speech presenting the draft 1986 Plan to the Supreme Soviet stated (*Pravda*, 27 November 1985): "To accelerate the renewal and modernization of production in all branches of the national economy, as a basis for raising its effectiveness and speeding up the rate of growth, it is intended to raise the retirement of obsolete fixed assets in 1986 1.7-fold by comparison to the annual average of retirements in the current five-year plan period (1981-1985). Of the total volume of fixed assets coming on stream in 1986, 31 per cent will be directed to the replacement of retired assets."

[15] See table 3.8.1 in section 3.8(i).

[16] In other words, the available evidence points to an elasticity of substitution significantly less than one.

[17] See section 3.8(ii).

[18] Clearly, in the extreme case, given a persistently low elasticity of substitution, output growth would be determined only by the growth of labour input together with the rate of change of total factor productivity. Note that in this case the growth of labour productivity would be identical to the growth of total factor productivity.

— technical progress, which refers to the introduction and spread of new production methods that enable the economy to increase output with a given input of resources;

— increases in the efficiency of the utilization of existing resources, namely, labour, capital and other inputs. They may reflect improvements in the planning and management systems and/or a faster transfer of resources from production units using less efficient production methods to units using more advanced techniques.

One important conclusion of the ECE secretariat's econometric work reported in this *Survey*[20] is that it is not possible to calculate very reliable estimates of changes in total factor productivity in the centrally planned economies. However, if plausible assumptions are made about changes in the output elasticity of capital, it is clear that a fall in the growth of total factor productivity must have also occurred: otherwise it would not be possible to preserve a "reasonable" accounting scheme given the observed slowdown in output and labour productivity growth.

In assessing the reasons for this slowdown in total factor productivity growth, it is interesting to note that the analysis also lends support to the interpretation that changes in efficiency have played only a negligible role.[21] Some further light on the efficiency issue is provided by the secretariat's calculations[22] which indicate that, due to rigidities in the structural adjustment process, the transfer of labour and capital towards more productive sectors has been slow and possibly weakening. This potential for raising efficiency, and thus total factor productivity, has not, on the basis of the secretariat's calculations, been fully utilized. As regards inputs other than labour and capital, greater efficiency in their use can also lead to improvements in total factor productivity. However, earlier calculations[23] indicate that the overall efficiency in the use of material inputs has not changed significantly.

Against the background of relatively less favourable developments in total factor productivity and the lack of apparent improvements in the efficiency of factor use, it is reasonable to argue that the centrally planned economies have not experienced an acceleration in the pace of technological progress which might have counteracted the constraining influences on output growth.

From the policy point of view this is a worrisome feature, considering the increased efforts that have been made to promote scientific and technological developments in these countries. Given that the rate of growth of investment has been falling lately and that fixed investment is in general the main vehicle for incorporating new technologies into the production process, it is not, however, an altogether unexpected development. Thus, policies intended to improve the investment process itself have not been successful in overcoming the consequences for productivity growth of the constraints on the expansion of investment.

To sum up the above discussion, the main supply-side factors which have contributed to the falling growth rate of labour productivity in the centrally planned economies appear to have been:

(*a*) An insufficient rate of capital deepening;

(*b*) Decreasing returns on increments to the capital stock (low elasticity of substitution between capital and labour); and

(*c*) A slowing down or, at best, an unchanged pace of technological progress without any noticeable improvement in productive efficiency.

In the light of these conclusions, policies to improve productivity in these countries would need to include at least the following:[24]

— Provision for more investment;

— Improvements in the investment process;

— A strengthening of policies to promote the diffusion of new technologies;

— Policies to facilitate structural adjustment, including labour retraining schemes;

— Further changes in the planning and management systems since it now seems evident that the changes introduced at the end of the 1970s and at the beginning of the 1980s have not been sufficient to improve the efficiency of resource allocation.

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[19] It should, strictly speaking, also include the introduction of new products for households and other final use. But for measurement reasons these qualitative improvements are often neglected in quantitative analysis.

[20] See section 3.8(ii).

[21] See section 3.8(ii).

[22] See section 3.8, table 3.8.4.

[23] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 95-97.

[24] Judging by the strategies announced in the draft five-year plans for 1986-1990 and, in some cases, also for the period up to the year 2000, most of the centrally planned economies seem to envisage policies broadly in line with these conclusions. See, for example, *Guidelines for the Economic and Social Development of the Soviet Union for 1986-1990 and for the period ending in 2000*, Moscow, Novosti Press Agency Publishing House, 1985, pp. 16-17, 23-24 and 26-31; and "Complex Programme on Scientific and Technical Progress of the CMEA Member Countries up to the Year 2000", *Ekonomicheskaya Gazeta*, No. 52, December 1985, pp. 4-8.

1.3 APPRAISAL OF THE CURRENT ECONOMIC SITUATION AND SHORT-TERM PROSPECTS

Some slowdown was expected in the rate of growth in the *ECE region* as a whole in 1985, but the actual deceleration was stronger than expected. Total output grew by about 2 1/2 per cent compared with 4 per cent in 1984. The ECE secretariat's view is that growth in 1986 should recover to about 3 1/2 per cent.

The weaker growth in the *market economies* was almost entirely due to a slowdown in the United States. Although the rate of growth fell, the upswing nevertheless continued and the risk of recession receded during the year—a development to which timely adjustments in economic policies contributed. An important aspect was the slower pace of investment, private consumption being the main support to the continued upswing. A further decline in rates of inflation was expected, but the actual decline in 1985 was much more than anticipated.

At the end of 1985 official forecasts indicated that the upswing would continue for a fourth year at a modest, although perhaps slightly higher, rate of growth of output and that inflation would fall still further. Given the outlook for growth, there was little prospect for a significant reduction in unemployment, particularly in western Europe.

However, the prospect for 1986 has now altered considerably because of the surprisingly steep fall in oil prices in the beginning of this year. It will give a significant boost to aggregate demand in the market economies and should strengthen the prospects for output growth and, in particular, for investment. The other important effect will be on inflation: actual rates and expectations had already fallen considerably by the end of 1985; the consequence of the fall in oil prices will be to bring the market economies, on average, into a non-inflationary situation in 1986. For the first time in many years it will be possible to adopt policies to improve growth and employment without running the risk of a resurgence of inflation. Growth in the market economies of the ECE region in 1986 could reach 3 1/2 per cent or more, which would open the prospect of a return to lower levels of unemployment. The fall in oil prices and the faster rate of growth in western Europe could also lead to a marked improvement in the outlook for southern Europe, where the prospects for economic activity in 1986 had been modest.

Growth also weakened in 1985 in the *centrally planned economies* and the 3.5 per cent achieved was less than expected in the annual plans. This rate of growth also appears to have been somewhat less than the underlying growth of potential output. The reasons for this weaker performance were essentially of a temporary nature. Thus, at the end of 1985 there was already some potential for faster growth in 1986. The annual plan targets do in fact imply an acceleration in the aggregate growth of NMP in eastern Europe and the Soviet Union to about 4 per cent. These targets, however, were set before the fall in oil prices. Lower oil prices will now have an adverse effect on export earnings and, perhaps, on output growth in the centrally planned economies. On the other hand, their exports may benefit from the higher rate of growth in the developed market economies, particularly in western Europe. On balance output growth is likely to fall somewhat below the targets implied in the annual plans.

Reflecting the slowdown in world output growth, *world trade* in 1985 decelerated sharply to about half its rate in 1984. Changes in the trade of the ECE region were mainly responsible for this development. The quickening of output growth in the ECE region as a whole in 1986 should, similarly, lead to a faster rate of expansion in world trade than in 1985. The developing countries could benefit from this improved outlook even though the terms of trade may still be moving against them.

Other things being equal, the improved outlook for output growth in the developed market economies should lead to more *east-west trade* in 1986. However, as stated above, the fall in oil prices will have a major impact on the export earnings of the Soviet Union and eastern Europe. The Soviet Union's terms of trade with the west will deteriorate, and the same may be true for most east European countries. These developments could lead to pressures to curtail imports from the west, although the outcome will depend on policies towards, and the availability of, external financing.

Chapter 2

THE MARKET ECONOMIES OF EUROPE AND NORTH AMERICA

2.1 SUMMARY OF THE MAIN DEVELOPMENTS IN 1985

This section gives an overview of the main changes in the market economies of the ECE region during 1985. Output growth weakened in North America, but the more modest rate in western Europe was maintained. Inflation continued to fall, especially in the second half of 1985, but employment rose only marginally and unemployment continued to rise. The United States current account deficit widened but western Europe had a surplus of some $20 billion. These developments are discussed in subsection (i) and (ii) while fiscal and monetary policies are reviewed in subsection (iii).

(i) Output and demand

The recovery in the growth of *output* in the market economies of the ECE region faltered in the first half of 1985. In western Europe, GDP in the four larger economies fell in the first quarter mainly because of the harsh winter which depressed output in the construction industry (particularly in France and the Federal Republic of Germany). After a modest recovery in the second quarter west European output strengthened in the second half of 1985 and for the year as a whole aggregate west European growth was about 2 1/4 per cent, more or less as forecast at the beginning of the year [25] and the same as in 1984. In the United States, GNP growth decelerated sharply in the second half of 1984 and remained sluggish in the first half of 1985 (at around a 2.3 per cent annual rate compared with some 9 per cent in the first half of 1984). [26] After sluggish growth in the second quarter, output picked up in the United States, partly under the influence of financial incentives to boost automobile sales. However, for 1985 as a whole, GNP growth was about the same as the average for western Europe and two thirds lower than the rate in 1985. Thus the large gap in output performance between the United States and western Europe, a gap that had characterized the recovery from early 1983 to the end of 1984, virtually disappeared in 1985. For the market economies of the ECE region as a whole, there was a fairly sharp deceleration in growth between 1984 and 1985, from 4 1/2 per cent to some 2 1/2 per cent, almost entirely due to the slowdown in the United States.

Growth in western Europe in 1985 was strongly supported by private consumption, which rose on average by 2 per cent (1 per cent in 1984) and accounted for nearly half of the increase in GDP. Public consumption, stockbuilding and fixed investment were all slightly weaker than in 1984.

The modest increase in aggregate capital formation (up 1.7 per cent) conceals a marked improvement in business investment in machinery and equipment behind a continuing depression in construction and dwellings. Business survey evidence suggests that business investment in 1985 was increasingly directed toward increasing capacities, in contrast with previous years when the emphasis had been on rationalization and labour saving. The data available so far suggest that in most countries the increased investment was mainly in the manufacturing sector. The weakness of investment in the construction sector reflects the continued restraint on public sector investment and the structural problems of the housing sector in many countries. The demand for housing has been affected by the relatively low growth of disposable income in most of western Europe and high real interest rates. Behind these broad tendencies is a relatively large degree of inter-country variation (for details, see below section 2.3).

Exports continued to grow quite strongly (by some 5 1/2 per cent, compared with nearly 7 per cent in 1984) and the net contribution of the foreign balance to growth was about the same as in 1984 (about 17 per cent of the increase in GDP). However, the role of the foreign sector has varied a lot among individual countries. In general, it was the predominant source of growth in the smaller economies in 1983, but by 1985 the contribution of the real foreign balance was on average zero or slightly negative (Austria and Switzerland are the notable exceptions in 1985). In 1984 and 1985 the stimulus from the foreign sector was relatively greater for the four larger economies (except for

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[25] See United Nations, Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 19.

[26] The history of recent cyclical developments in the United States has been affected by the publication in December 1985 of revised national income and product accounts. The revisions, which include a shift in the base period from 1972 to 1982, are particularly large for recent quarterly estimates (seasonally adjusted annual rates) of GNP growth:

	1984.1	*1984.2*	*1984.3*	*1984.4*	*1985.1*	*1985.2*	*1985.3*
Old	10.1	7.1	1.6	4.3	0.3	1.9	4.3
New	11.4	5.1	2.1	0.6	3.7	1.1	3.0

These changes are largely due to corrections in the time of recording merchandise exports and imports. See United States Department of Commerce, *News*, BEA-85-63, Washington D.C., 20 December 1985.

Italy and the United Kingdom in 1984), although accounting for less than a quarter of the growth in output.

The contribution of stockbuilding to GDP growth in 1985 was generally quite small and in some of the smaller countries of western Europe de-stocking had a dampening effect on domestic demand. There was a sharp turnround in the stock cycle in the United States: after contributing strongly to growth in 1984, stock changes were slightly negative in 1985.

In the United States both private and public consumption continued to rise strongly in 1985: private consumption rose 4 per cent compared with 4.4 and 4.6 per cent in 1984 and 1983 respectively, while public consumption rose by some 5.3 per cent after growth of 4.3 and 1 per cent in 1984 and 1983. The slowdown in 1985 was due to a marked deceleration in fixed investment, de-stocking and the continued drag of the trade deficit: import growth in 1985 was considerably less than in 1984 but exports *fell* by 3 per cent.

In southern Europe GDP growth in 1985 was about 2 per cent—not very different from the rest of western Europe but well below expectations at the start of the year. The main source of growth continued to be the foreign sector, although there was some recovery of domestic demand (mainly in Spain). In some countries the collapse of fixed investment over the last five years seems to have come to an end, but the recovery is not universal and, so far, is not very strong.

The recession of 1980-1982, and the subsequent recovery, affected the various sectors of the market economies in different ways. During the downturn the absolute level of output fell in manufacturing and construction. In western Europe, output in these two industries fell on average by 3 and 6 per cent respectively, between 1979 and 1982; in the United States the fall was much greater: 8 and 16 per cent. Agricultural output increased by some 12-13 per cent over the same period but the main support to GDP growth came from the service sector, which continued to grow during the recession by just under 4 per cent in both western Europe and North America. This may have reflected the continuation of an underlying change in the structure of output but, traditionally, there have always been relatively milder cyclical fluctuations in service output.

During the recovery period, 1982 to 1985, there has been a recovery of manufacturing output in western Europe (up 7 1/2 per cent, on average) and, especially, in the United States (up 19 per cent). The growth of output in the service sector has accelerated in the upswing, although it has grown less than manufacturing output: significantly less in the United States, marginally so in western Europe. Agricultural output has grown much more slowly during the recovery period than during the recession. This is true of both the United States and western Europe and reflects the loss of overseas markets (particularly for the United States) and changes in farm support policies. Thus, in both western Europe and the United States, the sectoral pattern of output changes during both the recession and the recovery has been very similar, although the pace of change has differed considerably. Another point to note is that the relatively fast growth of the service sector, on which much attention has been focused, is partly (even largely) due to the different cyclical sensitivity of the service and non-service sectors.[27]

(ii) Inflation, labour markets, and the balance of payments

Against this background of modest output growth, *inflation* rates continued to fall in 1985 and, in general, by more than was expected at the beginning of the year. The anti-inflationary stance of monetary and fiscal policies in most individual countries has been reinforced by the continued fall in world commodity prices. In western Europe (and Japan) these favourable influences have been amplified by the appreciation of exchange rates against the dollar—in a number of countries (France, the Federal Republic of Germany, for example), import prices in local currency fell during the year. After a brief check in the second quarter of 1985 (mainly due to the effect of higher interest rates), the deceleration of consumer prices was unexpectedly rapid in the second half of the year: from an average year-on-year increase of 5 1/2 per cent in western Europe in the second quarter the rate fell to around 4 1/2 per cent in the last quarter. In the Federal Republic of Germany, Denmark and Switzerland the price level actually fell between the second and third quarters. The deceleration was even more marked in the case of producer and input prices: input prices *fell*, on average, in the second half of the year. The exchange rate changes in 1985 have worked in the opposite direction in the United States, although, so far, there appears to have been little pressure from higher import prices on the domestic inflation rate, which has remained around 3 1/2 per cent.

Another aspect of declining inflationary pressure in the last four years has been the sharp deceleration in unit labour costs. In 1985 this downward trend was checked: in general, productivity growth was weaker while nominal wage growth, although remaining modest, more or less stabilized. (However inter-country differences in wage and unit labour cost growth remain quite large: see section 2.4.4.) Profit shares, although no longer rising strongly as in 1983 and 1984, have been supported by the weakening of import prices: producers' output prices decelerated strongly in 1985 but prices of raw material inputs were even weaker and were actually falling in most countries from the second quarter.

Inflation rates in southern Europe still remain much higher than in the other market economies—excluding Spain, rates of increase ranged between 18 and 71 per cent in 1985, with some deterioration during the year in Greece and Yugoslavia.

An important element in the inflation process consists of the expectations of producers and consumers regarding the likelihood of future price increases. These are notoriously difficult to measure, but the available survey data for western Europe suggest that these have fallen steadily in the last two years (see below, section 2.2 for details).

Employment in the market economies rose again in 1985, for the second year running. But the increase was small (less than 1/2 per cent) and was concentrated in North America. In western Europe the average increase was about 0.6 per cent, compared with 2 per cent in the United States, where employment had already risen by 4 per cent in 1984. However, in western Europe the improvement in employment was still less than the increase in the labour force so that *unemployment* continued to rise, although at a much lower rate than in the last few years. In the United States employment growth has kept ahead of increases in the labour force and the average unemployment rate in 1985 (7 per cent) was lower than in 1984. In western Europe unemployment in 1985 was between 10 and 17 per cent of the total labour force in six countries and for 13 countries averaged nearly 10 per cent. By mid-1985 the number of persons unemployed in the market economies (excluding southern Europe) was about 22 1/2 million, about 57 per cent of them in western

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[27] However, services have expanded much faster than industry in terms of employment. See below, section 2.6.

Europe. In southern Europe unemployment rates are very high (over 20 per cent in Spain and Turkey in 1985) and generally worsened during the year.

An important aspect of the recent recovery of employment is that the new jobs are not, in general, going to those who lost their jobs in the recession. Between 1979 and 1983 most of the job losses were borne by males working in industry, but in the recovery (1983-1985) most of the new jobs have been in the service industries and have gone mainly to women. In western Europe about nine tenths of the rise in employment is accounted for by women and in the United States the proportion is close to three fifths. Another characteristic of employment in western Europe[28] is the large and growing proportion of part-time work in the total, a feature which is closely correlated with the growth of female employment in services. One implication of this is that the recovery of employment in terms of hours worked (or of full-time equivalents) is very much weaker than is implied by the figures for the *number* of people employed.

The uneven distribution of trade and *current account balances* worsened still further in 1985. The United States' trade deficit widened to some $140 billion and with a falling invisibles surplus the current account deteriorated to an estimated $110 billion. The counterpart of this deficit has been largely concentrated in Japan, where a rising trade surplus and a falling invisibles deficit have led to a current account surplus of some $47 billion in 1985, and the Federal Republic of Germany, where the current account surplus reached $16 billion. Western Europe as a whole had a current account surplus of about $20 billion: the United Kingdom's surplus increased, France moved slightly into surplus and some of the smaller countries (the Netherlands, Norway and Switzerland) maintained significant surpluses. Among the larger countries Italy was exceptional with a deterioration of both the trade and current accounts. In southern Europe the adjustment policies of the last few years have been largely successful in correcting the large current account deficits that emerged after the two oil shocks. In 1985 Spain and Yugoslavia had increased current account surpluses, while in Portugal the deficit was eliminated and in Turkey much reduced. Only Greece had a larger deficit.

(iii) Fiscal and monetary policies

The particular mix of fiscal and monetary policies among the individual countries has led to a capital inflow into the United States which has not only financed the current account deficit but has also led to a prolonged *appreciation of the dollar*: between mid-1980 and the first quarter of 1985 its nominal effective appreciation was some 60 per cent. Against the dollar the major west European currencies depreciated sharply: the French franc by 57 per cent, the Deutschmark by 45 per cent, the pound sterling by 43 per cent and the Swiss franc by 40 per cent. The Japanese yen depreciated much less: at its lowest point—at the end of 1982 and in early 1985—it was never more than 12 per cent below its 1980 value against the dollar. In terms of effective rates the depreciations were generally less sharp than against the dollar alone.

Credit conditions began to ease in the United States in mid-September 1984 and a more expansionary monetary policy led to short-term interest rates falling some 3 points by January 1985. However, the dollar continued to rise until February when the west European central banks, with some help from the United States, sold several billion dollars in an apparently successful attempt to break the upward momentum. The easing of United States' interest rates and increasing evidence of a slowdown in economic growth were the principal factors behind the weakening of the dollar, but since the bulk of the world's foreign exchange transactions are unconnected with trade in goods and services, changing expectations also played an important role. Expectations of a further easing of United States' monetary policy were increased by fears of a banking crisis in the spring; in May the Federal Reserve lowered the discount rate to 7.5 per cent, the lowest level since 1978. In explaining this action the Federal Reserve expressed its fears as to the deflationary impact of the high dollar on the American economy. The dollar then declined fairly steadily and by the end of August its effective rate was about 10 per cent below its February peak. At the end of the summer the publication of favourable statistics on the trade deficit and unemployment led to a recovery of the dollar in September, but this was quickly brought to an end by the co-ordinated selling of dollars by the Group of Five and by the subsequent rise in Japanese interest rates. At the end of January 1986 the value of the dollar against the yen was nearly 25 per cent lower than in February 1985. In fact, the yen has fully reversed its previous depreciation. The decline of the dollar was slightly more (28 per cent) against the Deutschmark and the French and Swiss francs, and somewhat weaker against the pound sterling (the latter appreciated considerably in March-November 1985, but since then has depreciated against a basket of currencies, including the dollar). However, the value of the dollar in terms of the main European currencies was still above its average level in 1980.

As already noted, short term *interest rates* in the United States fell in the last quarter of 1984 before rising again in January 1985. In the other industrial countries rates moved slowly down, large falls in the inflation rate leading to larger reductions in Italy, but moved up again in February as the dollar strengthened. The rebound was particularly marked in the United Kingdom where the three month interbank rate rose over 4 percentage points, to 14 per cent, between the beginning of January and the end of February: this increase was partly due to the sensitivity of sterling to oil price expectations. Market interest rates generally fell again in the second quarter, both in the United States and western Europe, but signs of faster economic growth (see above) led to a firming of rates in the United States which continued to the end of the year. There were some temporary increases in France and Belgium as a result of speculation of further EMS realignments: following the realignment of the lira in July tensions increased within the EMS for a while as outflows from the dollar moved predominantly into the Deutschmark and the Dutch guilder. However in the last quarter of 1985 the trend in western Europe was generally downward, with official rates being reduced in France, Belgium and Italy. In Japan there was a sharp increase in interest rates in late October as part of the government's efforts to encourage the appreciation of the yen against the dollar. There was a rise in the Federal Republic of Germany in response to the Japanese increase, but this was brief as the authorities soon made it clear that they were not trying to influence exchange rates by raising interest rates. There was some slight firming of rates towards the end of the year. Thus the tendency for a gradual fall in interest rates continued through 1985. In the last quarter short-term rates in the United States were some 1.2 points below their average in the last quarter of 1984. In western Europe the fall was generally much smaller (in France they were nearly 2 points lower, but in the United Kingdom nearly 2 points higher). The fall in long-term rates has generally been less than in short-term rates, except in the United States.

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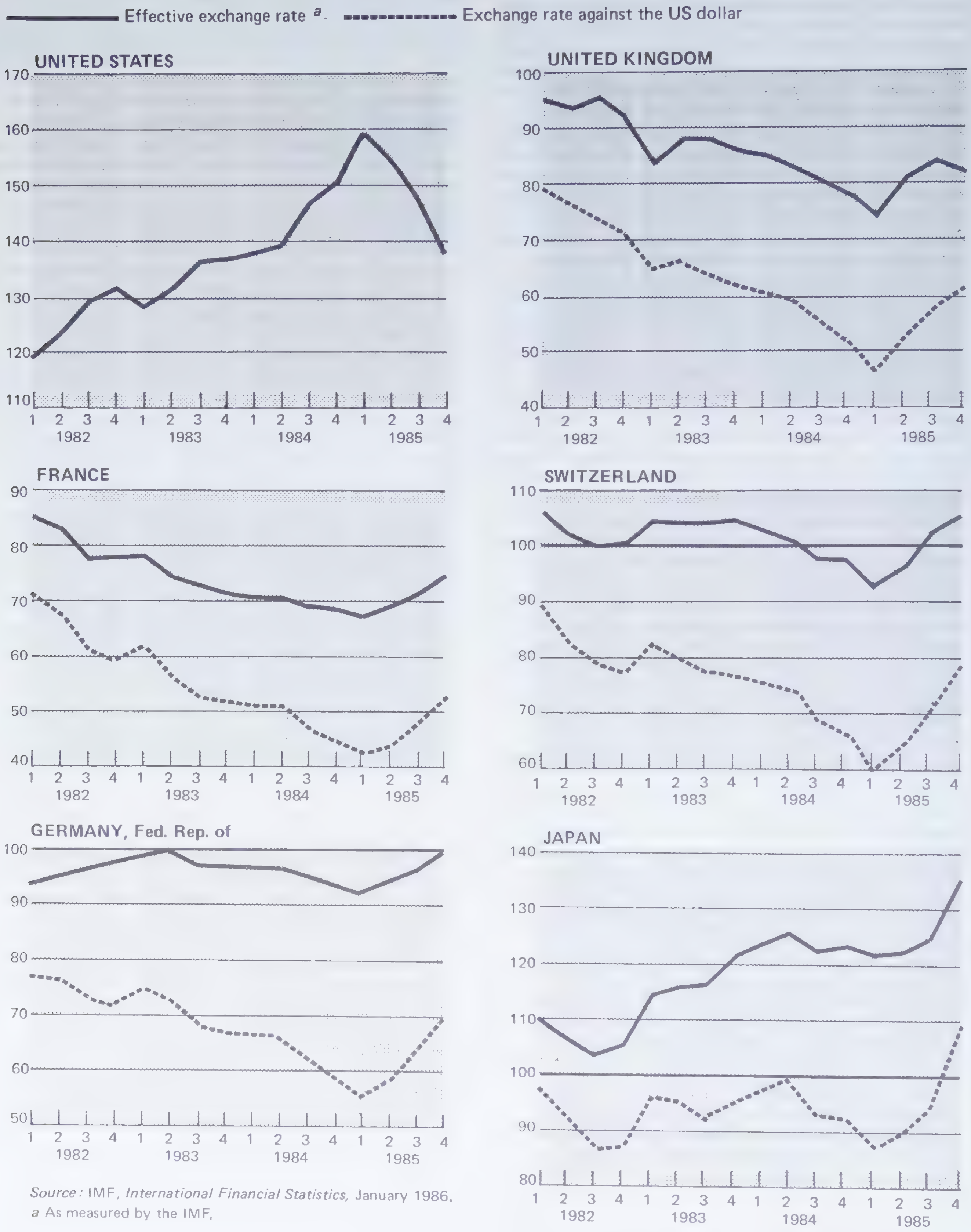
[28] Part-time employment is relatively much less important in the United States, but there are signs that it is increasing there as well.

CHART 2.1.1

Quarterly indices of exchange rates, 1982–1985

(1980 = 100)



Source: IMF, *International Financial Statistics,* January 1986.

a As measured by the IMF.

TABLE 2.1.1

Changes in actual and structural financial balances of general government 1983-1985
(Per cent of GDP/GNP, change over the previous year)

	1983		1984		1985 [a]	
	A	B	A	B	A	B
France	−0.3	0.2	0.3	1.2	−0.5	—
Germany, Federal Republic of	0.8	1.3	0.5	0.5	0.8	0.5
Italy	0.2	1.7	−1.2	−0.2	0.1	0.1
United Kingdom	−1.4	−1.3	−0.1	−0.4	0.4	0.2
Total	−0.1	0.6	0.1	0.4	0.2	0.2
8 smaller economies [b]	0.2	0.3	1.6	1.1	0.8	0.4
Total western Europe	—	0.5	0.4	0.6	0.4	0.3
United States	−0.3	−0.7	0.7	−0.7	−0.5	−0.3

Source: OECD, *Economic Outlook*, Paris, December 1985. A positive sign indicates a tightening of policy. European groups weighted by 1982 GDPs.

Note: A-Actual, B-Structural.

[a] Forecasts.

[b] Austria, Belgium, Denmark, Finland, Ireland, the Netherlands, Norway and Sweden.

The stance of economic policies in 1985 remained fairly restrictive and their basic orientation was unchanged from the previous two years. Fiscal policies in western Europe have continued the adjustment towards surplus in the cyclically adjusted, or structural, deficit, although in France, Italy and the United Kingdom the degree of restraint was actually less than anticipated at the beginning of the year. One reason for this is that the reduction in general government expenditure has been hampered by the increase of interest payments on higher levels of government debt. In the United States little progress was made in 1985 in cutting the Federal Budget deficit and fiscal restraint in western Europe has continued to be offset by expansion in the United States. However, in the summer of 1985 the United States Congress passed the Concurrent Budget Resolution which is intended to reduce the deficit from 5.5 per cent of GNP in fiscal year 1985 to 3 per cent in fiscal year 1988. The Gramm-Rudman amendment to this resolution provides for automatic reductions in spending if Congress and the President are unable to agree on a budget which is consistent with the specified timetable towards a balanced budget in 1991. Whether the Gramm-Rudman amendment secures the necessary cuts in expenditure through automaticity or by encouraging a compromise between Congress and the President, it now seems probable that the United States will move toward fiscal restraint in the course of 1986. Although there were some signs towards the latter part of 1985 of a slight modification in fiscal policy in western Europe (the Netherlands, the Federal Republic of Germany and the United Kingdom) and in Japan, fiscal policy outside of the United States remains clearly restrictive. Substantial cuts in the United States' budget deficit would therefore represent a significant change in the international policy mix which has prevailed throughout the last three years of recovery.

For about the last five years *monetary policy* in western Europe and North America has been oriented to securing lower rates of inflation. This has been done by setting progressively declining rates of growth for selected monetary aggregates (table 2.1.2). The growth of the money supply has decelerated sharply in these countries since 1982, although the difficulties of monetary targeting have proved considerable. The problems have not only concerned the difficulty of finding an aggregate which could be relied upon to provide an accurate indicator of the stance of monetary policy and of inflationary pressure, but concern for meeting monetary targets has frequently had to give way to concern for the exchange rate. The latter consideration has been true in western Europe for some years but it was also the case for the United States in 1985. Governments' strict adherence to monetary targeting has also come under pressure when other policy objectives have been compromised by the high level of interest rates.[29] A more pragmatic approach to monetary targets (long established in some countries) was evident in 1985. In the United States, M1 was growing well above its target range for most of 1985 but the authorities did not respond with a tightening of policy: this was judged inappropriate in the light of expected economic developments, falling commodity prices and the desired weakening of the dollar. Financial deregulation had in any case raised doubts as to the traditional links between changes in M1, nominal income and interest rates. (The broader money target, M3, was at the top of its range for most of the year.) A similar response was also evident in the United Kingdom: M3 grew well above its target during 1985, but in October the authorities announced that no attempt would be made to correct this as a tightening of policy would be undesirable. Greater emphasis is to be placed on the exchange rate and market rates of interest will be maintained at whatever level is required to restrain inflation. Again, interpretation of the aggregate has been obscured by financial innovations, but this is not the sole reason for pragmatism. In the Federal Republic of Germany the target for central bank money was generally in the middle of its range and the authorities allowed interest rates to fall (and rise towards the end of the year) with the rise (and easing) of foreign demand for Deutschmark assets. In most of the rest of western Europe monetary policy is closely linked to exchange rate considerations, which in practice means a link to monetary conditions in the Federal Republic of Germany. In France M2R was growing above its range in the first half of 1985 but the authorities moved to correct this in June with a number of measures, including lower limits for penalty-free bank lending. The shift to an M3 target for 1986 reflects recognition of financial innovations and changes in the structure of financial institutions.

TABLE 2.1.2

Money supply targets, 1983-1986
(Per cent, per annum)

	Money stock concept	*1983*	*1984*	*1985*	*1986*
France [a]	M2/M3	9	5.5-6.5	4-6	3-5
Germany, Fed. Rep. of [b]	CBM	4-7	4-6	3-5	3.5-5.5
Italy [c]	TDC	18	17.4	16.2	. .
	M2	12-14	12	10	. .
United Kingdom [d]	M0	. .	4-8	3-7	2-6
	M3	7-11	6-10	5-9	11-15
United States [e]	M1	5-9 [f]	4-8	4-7 [g]	4-7 [h]
	M3	6.5-9.5	6-9	6-9.5	6-9 [h]

[a] December to December, the December value being the centre of a 3-month moving average. 1983 = M2; 1984 and 1985 = M2R; 1985 = M3.

[b] Fourth quarter to fourth quarter. CBM is Central Bank money.

[c] TDC is total domestic credit

[d] February-April.

[e] Fourth quarter to fourth quarter

[f] 1983-II to 1983-IV.

[g] Lowered to 3-8 for 1985-II to 1985-IV

[h] Tentative

Although monetary targets would appear to have been somewhat demoted recently, there is no suggestion that they are to be abandoned (the United Kingdom government, for example, continued to set targets for sterling M3 at the time of its March budget). A more relaxed approach to targeting has obviously been helped by falling inflation rates and the general appreciation in the financial markets that the information content of changes in the monetary aggregates has been garbled by the extensive deregulation of financial systems in the last few years.

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[29] See section 2.8 below for a more extended discussion of monetary policy in the 1980s.

The agreement by the Group of Five last September to cooperate closely to bring about a continued orderly depreciation of the dollar seems unlikely to lead to any marked change in the restrictive stance of west European fiscal and monetary policies in 1986. A relaxation of monetary policy would not in fact be consistent with that agreement because the fall in nominal interest rates in western Europe must lag behind the decline of those in the United States if a gradual decline of the dollar is to be maintained. The sharper than expected fall in the dollar in early 1986 is likely to reinforce the cautiousness of policy makers towards any change in monetary policy. This is particularly true of the Federal Republic of Germany which has a critical influence on other west Europeans' monetary policies either directly through their obligations as members of the EMS or because of the importance of their exchange rates against the Deutschmark for their international competitiveness. Fiscal policy will also remain tight in western Europe as governments continue to pursue the objectives of lower government spending and reduced deficits.

Against this policy background the *outlook for 1986* at the end of last year was for a broad continuation of the trends already under way in 1985. The consensus of national official forecasts, made towards the end of 1985 and before the current slide in crude oil prices, was for west European growth to continue at about the same pace as in 1985, that is, by about 2 1/2 per cent. With nominal incomes tending to increase by much more than prices in most of western Europe, private consumption growth was expected to accelerate (to nearly 3 per cent, instead of just under 2 per cent in 1985) and to account on average for nearly two thirds of the rise in GDP. The other main source of growth in 1986 was to come from the recovery in fixed investment, which was expected to rise by nearly 4 per cent compared with less than 2 per cent in 1985. Most of the growth in fixed investment is expected to be in machinery and equipment, although investment in new construction could recover a little from the depressed levels of 1985. With the acceleration in domestic demand, imports were expected to grow faster in 1986, particularly in the larger European economies, but export growth (of goods and services) is likely to slow down (from around 6 to some 4 per cent in volume), mainly as a result of the lagged effects of west European currency appreciation.

Within western Europe growth is likely to be strongest in the Federal Republic of Germany: the outlook was improving steadily in the second half of last year and at the end of 1985 a minimum growth rate of 3 per cent was being forecast for 1986, based on a large increase in private consumption and a continued high rate of investment. However, the recent changes in oil prices and exchange rates are likely to have an especially beneficial effect on output and inflation in the Federal Republic and forecasts for growth in 1986 are gradually being raised. Before the end of 1985, the French economy was also expected to grow by some 2 per cent in 1986 after only 1 per cent in 1985: this forecast is now also likely to be improved as lower oil prices improve the balance of payments position and the inflation outlook and with the likelihood of faster growth in the Federal Republic of Germany. In the United Kingdom, where the recovery has been under way for rather longer than the rest of western Europe, a deceleration in output growth was generally expected by most forecasters before the recent fall in oil prices: the government's November forecast was for 3 per cent growth in 1986, down from some 3 1/2 per cent in 1985 and a little higher than the consensus of around 2 1/2 per cent of the independent forecasters. (The effects of lower oil prices on the United Kingdom, which are more complex than for most other European countries, are discussed further in the next section.) In Italy the prospect for 1986 is for little change in the rate of GDP growth (around 2 1/2 per cent), given the current account deficit and a domestic inflation rate which is still much higher than in most of its European trade partners. In the smaller countries of western Europe output prospects were originally for a deceleration in their aggregate GDP growth from around 2 1/2 to just above 2 per cent. However this forecast is now likely to be improved given the impact of lower oil prices, faster growth in the Federal Republic of Germany and, for some of them perhaps, some depreciation of their exchange rates against the Deutschmark.

In the United States GNP growth is expected to improve in 1986 after a relatively weak 1985. The Administration is forecasting 4 per cent real growth between the fourth quarters of 1985 and 1986. This is equivalent to a year-on-year increase of 3.4 per cent, which is only marginally higher than the consensus of forecasts in the private sector. Lower interest rates and a much lower exchange rate for the dollar are among the main factors behind this improved outlook. Export volumes should rise in 1986 (after falling in 1985) and import growth could be halved. The drag of the real trade balance on domestic output growth will thus be considerably reduced in 1986. A higher rate of stockbuilding is expected to contribute to growth and fixed investment to remain strong. Residential investment could rise, but business investment intentions are currently affected by the proposed tax reforms[30] which, if implemented, would eliminate tax credits and reduce depreciation allowances. However, it has become clear that such changes in tax allowances, even if approved by the Senate, are unlikely to take effect before 1987, a prospect which could lead to a bunching of investments in 1986. As profits are expected to increase and interest rates to fall (although very gradually), the investment outlook for 1986 was already improving before the fall in oil prices. Some forecasters have expressed doubts as to the likely strength of private consumption in 1986 and have pointed to the high ratio of consumer credit to income and to the very low households' saving ratio. However, special factors appear to have influenced these ratios[31] and there are also countervailing influences such as the wealth effects of higher stock market prices. One source of increased uncertainty is the impact of the Gramm-Rudman amendment on government consumption, which in 1986 is expected to rise by nearly 3 per cent (less than in 1985). A particular concern is how the amendment would work during a recession—however, the latter appears to have virtually disappeared from the range of probable forecasts for 1986. The prospects for a decline in the Federal budget deficit in 1987 and beyond have strengthened (even without the possible additional pressure of the Gramm-Rudman amendment) and this could begin to influence long-term interest rates during 1986.

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[30] The relevant legislation has been approved by the House of Representatives, but not yet by the Senate.

[31] Consumer credit appears to have risen sharply in part because of increased use of credit cards. The low savings ratio is partly a reflection of changes in the age structure of the population. It should also be borne in mind that one reason why the United States savings ratio is much lower than those in western Europe is a difference in accounting methods. See below, section 2.3, footnote 52.

Even before the latest fall in oil prices the outlook for inflation was for continuing reductions in western Europe, a prospect which has been strengthened by the steady depreciation of the dollar. At the end of 1985, it seemed likely that the average increase in consumer prices in 1986 would be around 3 to 4 per cent, with the GDP deflator rising somewhat under 5 per cent (compared with nearly 6 per cent in 1985). In the United States some acceleration of prices is expected during 1986, but not enough to lead to a tighter stance of monetary policy. However, this outlook could change if the depreciation of the dollar accelerated sharply. The President's Report expects the year-on-year increase in consumer prices to be the same as in 1985 and to accelerate from 3.3 to 3.7 per cent between the fourth quarters of 1985 and 1986.

The recovery of output (and in a few countries of employment) in the market economies is now entering its fourth year, but there are few of the usual signs of an upswing reaching its peak: increasing bottlenecks in output, raw material shortages and tight labour markets, rising interest rates and falling profits, and so forth are not in evidence. Instead, capacity utilization rates (only available for manufacturing industry) remain relatively low, unemployment high, wage increases remain modest and price increases are falling, as are the inflationary expectations of both producers and consumers. Interest rates, both short- and long-term are falling slowly, although real rates are more sluggish. This set of conditions prevails not only in western Europe, where the pace of the recovery has been relatively modest, but also in the United States. The environment in the market economies for continued non-inflationary growth was already favourable before the recent large fall in the price of crude oil.

The fall in oil prices at the beginning of 1986 is an important event which will lead to a reconsideration of the outlook for 1986 and beyond. It is too early to say how the forecasts will be affected in detail but, assuming the price of oil remains at $20 a barrel or less, it is clear that output will receive a significant boost and that inflation, which was already falling rapidly in the second half of 1985, will be further reduced. It would not be unreasonable to expect average west European growth to be around 3 1/2 per cent in 1986 and for the average (year-on-year) inflation rate to fall below 3 per cent. The pattern of demand is likely to remain more or less as described in the end-of-year forecasts discussed above with, namely, a strengthening of private consumption and of fixed investment. The new situation produced by this latest oil shock is discussed more fully in the following section.

2.2 SOME MAJOR ASPECTS OF THE CURRENT ECONOMIC SITUATION

This section discusses some aspects of recent developments which could have important implications for policy. Subsection (i) discusses the emergence of strong disinflationary tendencies in the market economies and subsection (ii) the implications for growth and prices of the recent fall in oil prices. In September 1985 a number of governments agreed to joint intervention in the foreign exchanges markets: subsection (iii) discusses a practical implication of this, namely, the measurement of equilibrium exchange rates. Subsection (iv) presents some conclusions on the current outlook.

(i) Disinflation and growth

For some 15 years the major concern of policy makers in the market economies has been the reduction of high and persistent rates of inflation. After the second oil shock in 1979 the need to break inflation took priority even over the traditional post-war goal of full employment. The process of reducing inflation has been much slower than originally expected, and has entailed huge costs in terms of lost output and employment, again larger than expected. Disinflation has been under way since 1981 but it gathered increasing momentum in 1985, and particularly in the second half of 1985. Cost pressures have eased considerably: nominal wage growth has stabilized at fairly modest rates while raw material input prices have fallen sharply, the combination of falling world dollar prices and, for western Europe, a marked appreciation of currencies against the dollar. On the input side there was actually a deflation, even in the United States where the dollar had been falling since February.

Four years ago, at the beginning of the upturn, the ECE secretariat argued[32] that inflation could continue to fall with the revival of activity: conditions of exceptionally large excess supply, in both the goods and labour markets, were likely to dampen a revival of inflationary pressures as would the normal cyclical upturn in productivity growth. Moreover, given a moderate acceleration of output growth during the recovery a flare-up in primary commodity prices was unlikely. These factors now appear to have developed as expected, even in the face of a much faster rate of growth than anticipated in the United States in 1983 and 1984. The weakness of commodity prices was considerably greater than expected.

A critical and uncertain element in the inflation process is the expectations of consumers and producers regarding inflation. These tend to be highly sensitive not only to the current inflation rate but also to policy announcements and changes, to sharp disturbances (oil shocks, devaluations, etc.) and to various other political and social factors, the effects of which are difficult to assess. Throughout the long period of inflation since the early 1970s the importance of inflationary expectations has been constantly stressed by analysts: as long as expectations remain high, it was argued, the prospects of breaking the inflationary spiral would be small. It now appears that a fundamental change has occurred also on the side of expectations. As can be seen in chart 2.2.1 price expectations have fallen significantly. Consumers' expectations of increased inflation are now far below their peak in early 1980. The chart suggests that they react somewhat "stickily" to changes in the actual rate of inflation: expectations altered quite slowly through 1981 and early 1982, but then adjusted sharply downwards after a brief upturn in the second half of 1983;[33] there was then another period of slow adjustment during 1984 followed again by a sharp fall between the second and fourth quarters of 1985.

TABLE 2.2.1

Disinflation in western Europe and the United States in 1985
(Percentage change)

	January to June	*July to December*
Western Europe[a]		
Input prices	0.5	−2.0
Producer prices	1.9	—
Consumer prices	2.6	1.1
United States		
Input prices	−0.1	−0.7
Producer prices	0.6	0.8
Consumer prices	2.0	0.1

Source: National statistics.

[a] Unweighted averages.

There has also been a marked change in the expectations of manufacturing producers as to whether their selling prices are likely to rise in the months ahead. As can be seen from chart 2.2.1, these appear to have been quite sensitive to changes in output expectations between 1980 and 1983: when the outlook for increased production improved, producers saw better opportunities for raising their prices. However, since the beginning of 1984 price expectations have fallen steadily although output expectations have remained positive (though not by a large amount) and fairly stable. The reasons for this divergence between the two sets of expectations is largely a matter for speculation, but two possibilities can be mentioned. First, the recovery of output growth in western Europe has been fairly modest and margins of spare capacity remain large; this is also true on a global level which increases the external pressures on the competitiveness of European firms. However, the same consideration applies, *a fortiori*, to 1981 and 1983 when selling price expectations increased. A second possibility, therefore, is that the effects of fixed investment devoted to rationalization and of all the other efforts to shake-out labour and raise efficiency are now beginning to pay off. In the early 1980s, with a low degree of capital utilization, continued pressure from labour and other input costs, and relatively weak growth prospects, firms probably found themselves under pressure to raise selling prices as the quickest way to improve cash flow and pro-

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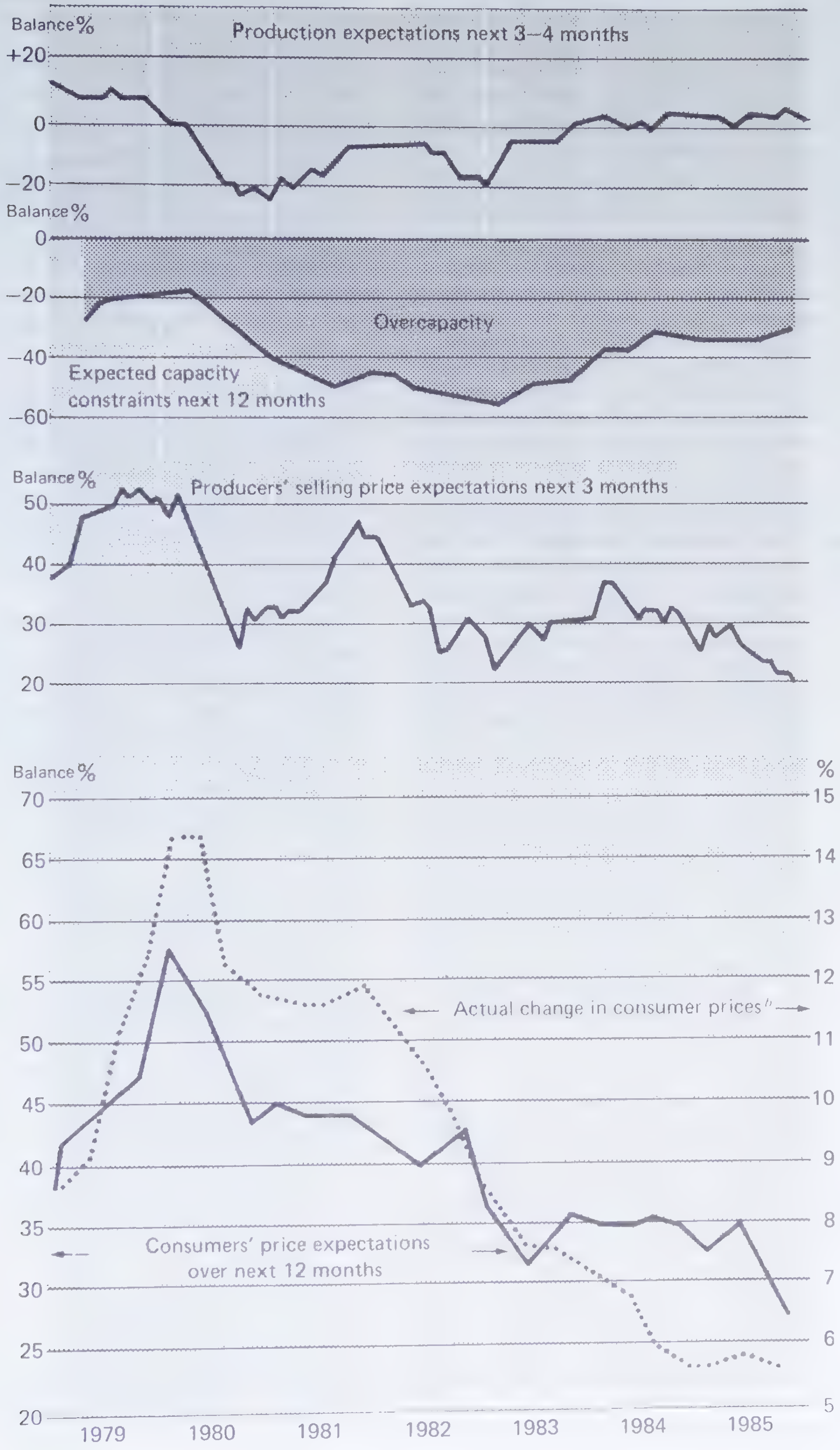
[32] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, chapter 1.

[33] This may have been a reaction to the modest recovery of world commodity prices which rose in the second half of 1983 after falling steadily for some two years. At this time consumers were perhaps still over-reacting to any sign that might suggest another commodity price shock.

CHART 2.2.1

Output and price expectations in the European Community,[a] 1979-1985



Source: Commission of the European Community, *European Economy*, Supplement B, No. 12, December 1985.

a Quarterly data.

b Percentage change over corresponding quarter of previous year.

fits—and every improvement in their expectations of higher output appeared to offer the possibility of achieving this. In this respect the situation has improved on all counts—raw material costs have fallen (or decelerated faster than final output prices), labour cost pressures have been relatively weak, and the capital stock is now better adapted to the changes that have occurred in the pattern and level of demand. Although the possibilities for raising prices in highly competitive markets are still limited, the pressures for wanting to raise them have probably been reduced by greater efficiency on the supply side.

Thus, even before the sharp fall of oil prices in January 1986, there had been a decisive movement toward price stability.

With inflation no longer a serious problem governments might now be expected to focus their attention on ways to improve output and employment. Low and declining rates of inflation could be expected to have a positive effect on output growth, as many governments in fact argued when implementing their anti-inflationary policies. However, matters are more complicated because a general fall in the rate of inflation (and of inflationary expectations) will not necessarily, at least in the short run, lead to a corresponding fall in nominal interest rates. This stickiness of nominal interest rates relative to the rate of inflation means, of course, that real rates will remain high, or even increase, and thereby constitute an obstacle to higher rates of output growth. This is shown clearly in chart 2.2.2 where real rates remain high in spite of falling nominal rates of interest. (An econometric analysis of the effects of inflation on output is reported in section 2.9 below.) In this situation, if there are no other strong forces for growth, the fast disinflation experienced in 1985 could undermine the prospects for stronger growth. It should be recalled, for example, that in the United States real interest rates were high and rising at the beginning of the recovery in 1983, but clearly other factors, including the strong fiscal expansion, overrode the constraint of the real interest rate. Looking at the situation in western Europe towards the end of 1985, prospects for growth were generally modest, although there were some signs of a quickening of economic activity in the Federal Republic of Germany. Likewise in the United States, the depreciation of the dollar and the low level of stockbuilding suggested some improvement in performance during 1986. However, the fall in oil prices in early 1986 has much improved the prospects for growth in spite of the continuation of high real interest rates.

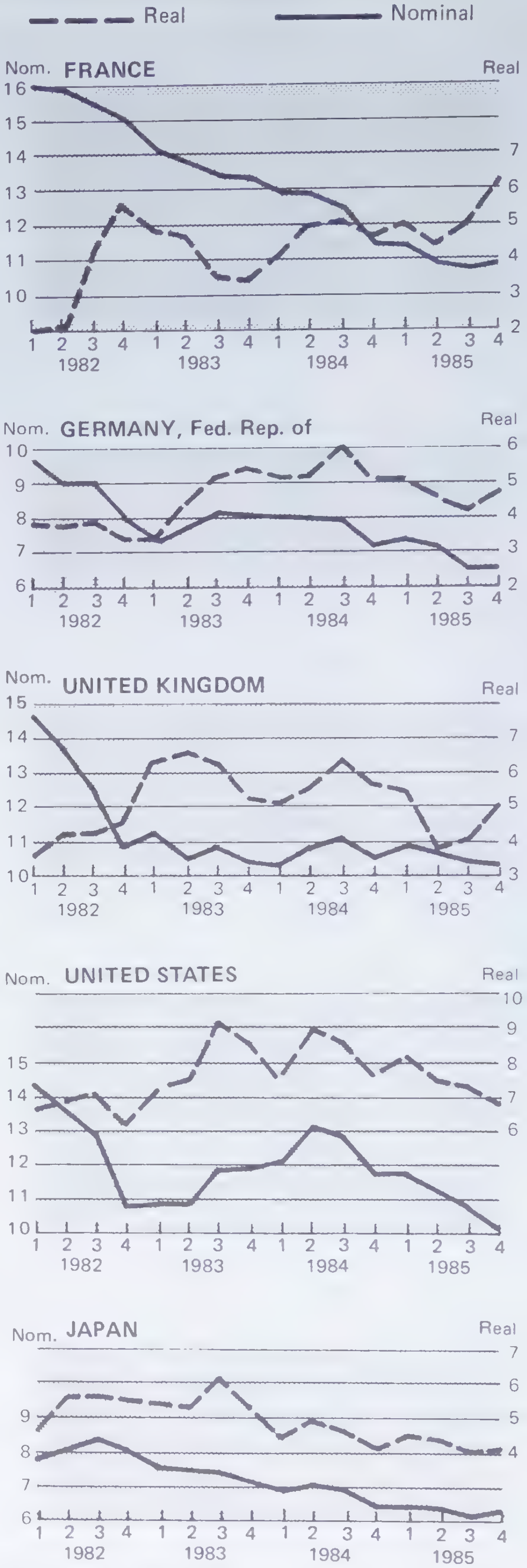
(ii) The third oil price shock

The dollar price of crude oil has been falling since 1981: the average price of crude oil in 1984 was about 20 per cent below the average for 1981 of just under $36.[34] During the period of economic recovery in the market economies the decline in oil prices was fairly gradual: in the third quarter of 1985 the average price was about 7.5 per cent below its level in the first quarter of 1984. The price then increased in the autumn of 1985, mainly under the influence of stockbuilding.

The subsequent weakening of oil prices was not in itself surprising: with excess supply in the world market and with a disintegrating cartel of producers with low production costs, falling oil prices were regarded as inevitable. After a pause for

CHART 2.2.2

Nominal and real long-term interest rates



Source: IMF, *International Financial Statistics*, February 1986; OECD, *Financial Statistics*, January 1986; and national statistics.

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[34] This is the average import unit value of crude oil imports into the member countries of the International Energy Agency. OPEC prices are less reliable as a guide to trends as the share of OPEC in total supply has fallen from two thirds in 1979 to one third in 1985, while the proportion of oil traded on the spot market—where prices may diverge significantly from contract prices—is now about 50 per cent compared with some 10 per cent before 1979.

the European winter, it was still widely expected at the beginning of 1986 that prices would fall in the spring and that the decline would continue gradually through the year, mainly through the continued use of various forms of discounting. However, in early December the members of OPEC had decided to switch from a strategy of production cuts, aimed at maintaining prices, to one of recovering and maintaining their shares of the world market. The problem facing the OPEC was one which is familiar to nearly all commodity agreements and cartels, namely, the difficulty of implementing production quotas in a falling market when the opportunity cost of production varies enormously from one producer to another. Until December 1985, a partial solution to this problem in the case of OPEC had been provided by Saudi Arabia which held its own output well below its agreed quota; but from 9 December it made clear that it was no longer prepared to do this and by mid-January 1986 Saudi Arabia was reported to be producing well above its previous output quota.

The response to the prospect of a significant acceleration in the decline of the price of oil was initially quite slow. Spot prices fell some 12 per cent following the early December meeting of OPEC, but the market steadied after a few days, although the trend thereafter was clearly downward. The slow reaction is partly explained by production and transport lags and by lags between spot and contract prices. But perhaps more important, it was only in the early weeks of January 1986 that governments, consumers and commentators began to be convinced that the price fall would last. Expectations are usually sticky—but as far as oil prices are concerned they would now appear to have shifted firmly downwards, although there is still considerable uncertainty as to the level at which they will eventually stabilize.

By the end of February 1986 spot prices had fallen to around $14, a fall of nearly 50 per cent in less than three months. Spot price movements contain an element of exaggeration (overshooting) and an important part of the trade in oil is conducted under contracts where prices adjust more slowly. Thus the prices paid by consumers are probably still well above the above-mentioned level. Nevertheless, even at a price of $20, the second oil shock of 1979 has now been largely reversed and, in real terms, [35] oil prices are back to where they were before the second oil shock.

For western Europe (and many other countries in the rest of the world) the fall in the dollar price of oil has been amplified by the appreciation of their currencies against the dollar. Until the second quarter of 1985, most west European countries had failed to benefit from the fall in oil and other commodity prices because of the rising dollar (see below, charts 2.4.1 and 2.6.4). The situation has now changed quite radically: the fall of roughly 40 per cent in the average dollar price of crude between the second quarter of 1985 and end-February 1986 translates into a fall of nearly 60 per cent for the west European countries that are members of the EMS. For the United Kingdom the decline is about 47 per cent, a reflection of the depreciation of sterling.

For the west European economies, most of which are net energy importers, the immediate effects of such a fall in the price of oil is a considerable gain in the terms of trade and a large improvement in the trade balance. Just as the previous oil shock was likened to a tax on the oil importing economies, so the present fall may be regarded as a large tax cut. Household and corporate incomes are likely to gain and this will stimulate consumption, investment and employment. The fall in the oil price will have a significant impact in lowering rates of inflation (as will the lower dollar which, for a given proportionate change, has a still larger impact on domestic prices). For a given rate of expansion of nominal demand, the fall in oil prices will lead to more output and less inflation. For the members of the European Community, its Commission has estimated that a 20 per cent cut in the oil price (below its average 1985 level) could lead to an increase in GDP of 2-3 percentage points after three years and a fall in the inflation rate by one percentage point. [36] Calculations such as these are, of course, highly uncertain, as their authors are well aware. This is not just a matter of econometric problems but *inter alia*, of how governments react to the initial effects. It will be recalled that the recession that followed the second oil shock in 1979 was due not so much to the shock itself but to the macro-economic policy responses to it in the market economies. Thus, if governments maintain their existing targets for fiscal deficits in nominal terms and thus ease the stance of fiscal policy, the subsequent boost to output could be larger than the initial income effects of the fall in oil prices. Alternatively, output growth could be little affected if governments tried to reduce their nominal deficits in line with falling inflation. A major uncertainty is that little is known of how business expectations are affected by such shocks (but see below for an assessment of possible developments in this respect). Some uncertainty also surrounds the effect of lower oil prices on the import demand of the oil exporters.

Government responses to the lower price of oil will effectively determine how the gains in the terms of trade are distributed, which will also influence the size of the second round effects on output and prices. This distributional question has already been reflected in suggestions to raise taxes on crude oil (or oil products) consumption. The reasons for this proposal are various: they include protection of domestic oil producers (in the United States), the reduction of existing budget deficits, and fears that the declining dependence of the market economies on imported oil could be checked and reversed, thereby leaving them vulnerable to further shocks in the 1990s. Apart from the second example, higher taxes on oil can be offset by reductions in other taxes in order to maintain the momentum of falling rates of inflation and the international competitiveness of the corporate sector. Offsetting tax cuts could also be aimed at increasing the demand for labour. The actual choices made by governments will obviously depend on their main policy objectives and the degree to which external and internal imbalances have been corrected.

Within western Europe the effects of the lower oil price are particularly significant in the Federal Republic of Germany: a considerable improvement in an already favourable current account will strengthen the Deutschmark and put a strong downward pressure on an already low inflation rate. Even before the drop in oil prices there appeared to be a strengthening of the autonomous forces for higher domestic output growth in 1986. Thus whereas forecasts of 3 per cent growth in 1986 were regarded as conservative at the end of 1985, the prospect of 4 per cent is now increasingly likely. This assumes that the positive effects on domestic demand more than outweigh the effect of the deterioration in the real trade balance on output growth. This, in turn, could have favourable multiplier effects on the rest of the world: those countries with relatively less favourable current account positions and inflation rates could not only benefit from the direct effects of lower oil prices but also from stronger demand (and a stronger Deutschmark) in the Federal Republic of Germany.

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[35] The price of oil relative to the average unit value of exports of manufactures from the main developed market economies.

[36] See, Commission of the European Communities, *Annual Economic Report 1985-1986*, Brussels, 17 October 1985 (COM (85) 570 final), p. 26.

While the net oil importers in the ECE region are likely to benefit unequivocally from lower oil prices, there are of course also a number of west European countries which are net energy exporters and for which the effects are more complicated. As energy consumers, they will, of course, benefit from the price and real income effects of lower oil prices, but unlike OPEC producers these countries are already producing oil at full capacity and therefore cannot hope for any gain in market share from the lower price. The North Sea oil and gas producers have become increasingly dependent on these energy sources for their export and government revenues. This dependence is of course nowhere near as large as that of members of OPEC; nevertheless, large and rapid changes in prices could present these countries with adjustment problems.

In the *United Kingdom* oil accounted for some 5-6 per cent of national income and for about 10 per cent of exports of goods and services in 1984. Oil also accounts for over 5 per cent of imports of goods and services, so there is already some offset to a fall in the oil price. Nevertheless, a 40 per cent fall in oil prices is likely to have a major short-run impact on the current account, which was in surplus in 1985. Uncertainty also increased as to whether the government would be able to proceed with its plans to lower taxes in its mid-March budget. For a given exchange rate, each dollar fall in the oil price is officially estimated to lead to a £500 million drop in government revenue. Thus, given the government's target for public sector borrowing, the scope for tax cuts would appear to have been reduced considerably. However, the official view is that the effects of falling oil prices on output and inflation are likely to be broadly neutral, if anything slightly beneficial. The loss in oil revenues should be more or less balanced by the stimulus to growth from lower costs. One risk is that a rapid fall in oil prices could trigger a fall in sterling which in turn would lead to higher interest rates. However, so far this has not happened. The fall in the pound's trade weighted index has been in line with the expected effects of the actual fall in the oil price: interest rates, already higher than in most other market economies, have not had to be raised further, and the impact of the lower exchange rate on the domestic inflation rate is likely to be more or less offset by the lower price of oil. The fall in the exchange rate, particularly against the Deutschmark, will help the United Kingdom manufacturing sector to benefit from the improved outlook for growth in the rest of western Europe.

The situation in *Norway* is somewhat different from that of the United Kingdom. Oil accounts for a larger share of government income and export revenues. Unlike the pound sterling the krone's exchange rate is fixed against a basket of currencies and changes exceeding a certain limit require a decision by the authorities. In 1985 oil and gas accounted for 20 per cent of Norway's GDP, 37 per cent of export revenues, and 21 per cent of general government receipts. Thus, in the absence of corrective measures, the negative impact of a sustained fall in oil prices on national income and on the current account will be substantial. In 1985 the Norwegian government's economic policy was relatively expansionary, a stance which is maintained in the 1986 National Budget, which was submitted to Parliament in October 1985. Some tightening of credit was introduced in the Final Budget Proposal, which was presented in December—i.e., prior to the December-February fall in oil prices—but no further changes in policy have been announced since. Given the tightness of the labour market and the absence of an exchange rate adjustment, relative unit labour costs are likely to rise and Norway's competitive position to deteriorate. Thus, Norway would not benefit fully from the real income gains of its trading partners.

The *Netherlands* is an important natural gas exporter. Gas prices tend to follow oil prices with a lag of approximately half a year. Thus, because the country imports more or less as much oil as it exports natural gas, the terms-of-trade effects in 1986 will still be positive. But the full impact of lower oil prices on the price of natural gas will only appear in 1987. On the other hand the fall in natural gas revenue may lead to a shortfall in government revenue and a corresponding change in the stance of fiscal policy. The Dutch Prime Minister recently warned that cuts in government spending and possibly tax increases may be needed in 1987 to correct the budget imbalance. However, energy-intensive products (e.g., petrochemicals) make up a large share of the Netherlands' exports, and because export prices are forecast to decrease, the country is expected to benefit from the increase in real demand in its major trading partners, particularly in the Federal Republic of Germany. As elsewhere, lower oil prices will mean a lower rate of inflation and higher real incomes in 1986.

Finland is a special case. As a net oil importer, the country will benefit, in terms of lower inflation and increased real demand, from the oil price fall. But there might be a significant negative effect on Finnish exports due to its trade with the Soviet Union. Finnish trade with the latter is regulated by a bilateral, balanced trade agreement. About 80 per cent of Finnish imports from the Soviet Union consist of oil, valued at world market prices. Lower oil prices mean lower Soviet exports to Finland and, hence, reduced Finnish exports to the Soviet Union. This is important, as exports to the Soviet Union currently amount to about one fifth of total Finnish exports. The products affected consist mainly of metal products, ships, machinery, textiles and clothing. These industries will be faced with a decline in demand if they are unable to find alternative markets in the strengthening economies of western Europe and North America.

Canada is also a net natural gas exporter and a small net oil importer. All the country's gas exports go to the United States. The terms-of-trade effects in 1986 are likely to be positive, given the above-mentioned time lags between changes in oil and natural gas prices. In the medium run, the effects on the trade balance are also expected to be positive, as increased receipts from non-energy exports are expected to more than offset the decline in exports of energy. In addition, the recent large depreciation of the Canadian dollar and a strong productivity rise seem to be improving the country's competitiveness.

Thus, although some countries stand to gain less than others or even lose, at least on the first round effects, the collapse of the OPEC cartel will generally have a highly beneficial effect on growth and inflation in the market economies of the ECE region and, given their importance in world output, on the world economy as a whole. Before the latest downward shock to oil prices, growth in western Europe and North America in 1986 was expected to be little more than 2 1/2 per cent, somewhat below the 3 per cent that some economists have argued was necessary to avoid another debt crisis and severe international monetary problems. The prospect of markedly lower oil prices will reinforce the improvements that were already under way in some countries and increase the probability of growth in the market economies reaching at least 3 1/2 per cent in 1986. In western Europe total output could increase by around 3 1/2 per cent and in the United States by some 3 1/2 to 4 per cent.

One of the more important consequences of the fall in oil prices, but also one of the most difficult to assess in quantitative terms, is its effect on business confidence and expectations, and particularly on the propensity to invest. The period since the first oil shock in 1973 has been one in which business expectations of future output growth have been generally depressed: consequently capital investment has been relatively weak and devoted more to the rationalization of existing activities than to the expansion of the capital stock. Not surprisingly, employment growth has been small and unemployment high, particularly in western Europe. Insofar as this period of economic disturbance and low growth expectations has been characterized by oil shocks and high energy costs, the recent, reverse shock in oil prices could have a psychological effect beyond its immediate impact on trade balances and inflation. The fall of oil prices could therefore signal the end of a long period of retrenchment and defensive investment, and the beginning of a new period of much improved prospects for faster growth.

One risk to the improved outlook for the world economy from the sudden and large fall in oil prices comes from the deteriorating position of a small number of oil-exporting, developing countries with high levels of foreign debt. The majority of developing countries will benefit from lower oil prices; they will also gain from the depreciation of the dollar and the gradual reduction of interest rates, which will help to ease the debt burden. And in the longer run faster growth of their principal export markets is the only way in which an eventual solution to the debt problem can be based. Nevertheless, a number of oil exporters will have considerable difficulty in meeting their debt obligations in the face of the sudden loss of perhaps one quarter to one third of their export earnings—and this, in turn, increases the possibility that a number of banks in the developed market economies might find themselves in a state of crisis. There is little argument that this situation carries great risks. However, the problem is well defined, is relatively concentrated in a few countries, and has been well publicized, not least since the so-called Baker initiative was launched in October 1985. In these circumstances it seems most unlikely that governments and central banks in the largest market economies would allow the debt problems of a few countries to develop to the point where the stability of the international banking system was threatened and the recovery undermined.

(iii) Exchange rate policy

In the above discussion of inflation, disinflation and output prospects, the importance of exchange rate changes is evident. In particular the fall in the exchange values of the dollar since February 1985 has played an important role in avoiding recession and strengthening the prospects for a continued upswing in the United States, and in speeding up the disinflationary process in western Europe. Since September 1985 there has been a definite change in policies: in a move away from freely floating exchange rates, the group of five agreed on a policy of co-ordinated intervention in the foreign exchange markets in order to bring down the dollar. This change in policy automatically raises the question of what is the appropriate exchange rate to be aimed at.

The system of floating exchange rates has come under increasing criticism in recent years: fluctuations have been much greater than anticipated and, it is alleged, instead of leading to increased monetary autonomy the system has interfered with the efficient working of the price system. Large international flows of capital, with little if any relation to flows in goods, have led to an alignment of exchange rates which may have disrupted the pattern of international trade and provoked strong pressures for protectionism. Current concerns at developments in the foreign exchange markets reflect a widespread feeling that disturbances in asset markets may lead to changes in nominal exchange rates that are too large in relation to some notion of the change required to maintain (or restore) equilibrium in the goods markets. A well-known version of this argument is supplied by the concept of "overshooting":[37] since prices of goods are assumed to be somewhat sticky in the short run, changes in nominal exchange rates (responding, *inter alia*, to differences in interest rates) may lead to large changes in the real exchange rate that do not correspond to changes in the demand for and supply of domestic and foreign goods. Loosely speaking, the domestic currency has become under- or overvalued in real terms relative to goods market equilibrium. If policy makers are to attempt to achieve a correct valuation they need to be able to identify the change in the real exchange rate that is justified by conditions in the goods market. In other words, they need to be able to identify the determinants of the real exchange rate.

The assertion that a currency is "over-valued" thus implies the existence of an objective measure of the external value of that currency. When used in relation to the nominal exchange rate, which measures the relative price of different national monies, the assertion implies that it is possible to determine the appropriate value of the home currency relative to other currencies. When applied to real exchange rates, which measure the relative price of goods, the implication is that relative prices can be assigned correct values. Perhaps the two most commonly used standards of reference for measuring the degree of over- (or under-) valuation of a currency are the purchasing-power-parity (PPP) value and the "external balance" value. The PPP aproach focuses on the prices of tradable goods and services and is based on the idea that exchange rates will tend to adjust to the point where their international purchasing power is equal. Differences in national rates of inflation will determine how far one currency adjusts in terms of another. The approach is perhaps the easiest for obtaining measures of over- or undervaluation, but it is subject to a number of conceptual and practical drawbacks. For example, differences in growth rates can bias PPP comparisons: technical change may alter internal relative prices, but these changes may not be reflected abroad because of the existence of non-tradable goods.[38] The practical problems are particularly serious. One relates to the choice of price index to which the calculation appears to be very sensitive: in one exercise there were sharply conflicting conclusions as to whether a currency was over- or undervalued for eight out of 16 developed market economies.[39] Another concerns the weighting system: for the United States dollar, the real effective rate based on multilateral weights suggested an over-valuation in the second quarter of 1983 which was 10 per cent higher than one based on bilateral weights.[40]

A third major, practical problem derives from the fact that absolute PPP comparisons are virtually impossible. This means

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[37] See Rudiger Dornbusch, "Expectations and exchange rate dynamics", *Journal of Political Economy*, Vol. 84, 1976.

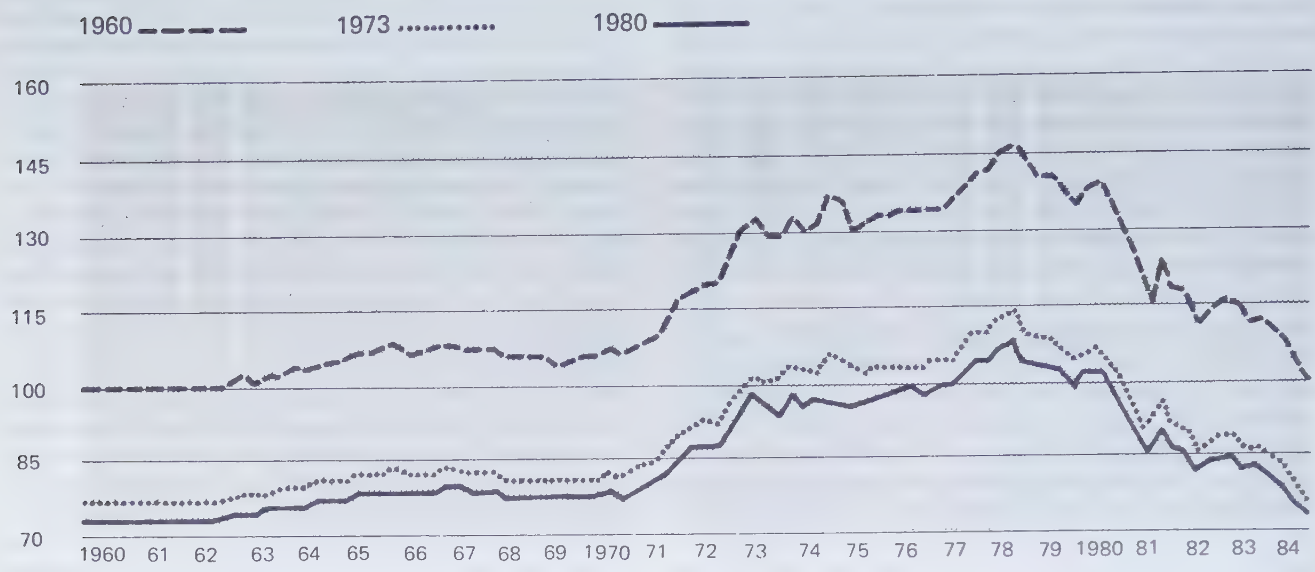
[38] See Bela Balassa, "The purchasing power parity doctrine: a reappraisal", *Journal of Political Economy*, Vol. 72, 1964. For a comprehensive review see Lawrence H. Officer, "The purchasing-power-parity theory of exchange rates: a review article", *International Monetary Fund Staff Papers*, March 1976.

[39] See Morgan Guaranty, *World Financial Markets*, July 1978.

[40] See Morgan Guaranty, *World Financial Markets*, July 1983. A "bilateral" system is one where the weights are proportional to each partner's bilateral share of the country's trade; a "multilateral" system is one where the weights are proportional to the partner country's share in world trade or trade among the industrial countries.

CHART 2.2.3

Real effective exchange rate of the United States dollar, 1960-I to 1984-IV



Note: The real effective exchange rate is shown on three different base periods, 1960 = 100, 2nd quarter of 1973 = 100, and 1980 = 100.

that the choice of a base period assumes major importance since the actual real effective exchange rate in this period is assumed to be an equilibrium value. Since there is no empirical procedure for choosing the base year the choice is largely a matter of judgement. Thus an important element of arbitrariness enters into all calculations of over- or under-valuation based on the PPP method. The sensitivity of such calculations to variations in the base period are illustrated in chart 2.2.3, where the real effective exchange rate of the United States dollar is plotted for three different base periods, namely, 1960, the second quarter of 1973 and 1980.[41] The use of the 1960 base gives a substantially different conclusion as to the over- or undervaluation of the dollar than the two more recent base years. Another striking feature of the series is that at the end of 1984 the real value of the dollar was about the same as it was in the early 1960s, a fact which ought to be explainable by the same methods which are now used to demonstrate that the dollar is currently at an inappropriate level. An important point to stress in this connection is that the deviations from purchasing power parity look rather different when looked at in an historical period which is longer than the five to eight years usually considered.

The failure of the PPP approach to explain nominal exchange rate movements in the last decade[42] has led to greater emphasis being placed on some form of external balance criterion for quantifying exchange rate misalignments. Essentially, the external balance method consists of defining an equation which describes the determination of the current account balance and then solving that equation for the real exchange rate that generates the target (not necessarily zero) balance, given domestic and foreign income levels and the terms of trade.[43] But this approach, which implicitly relies on one instrument, is seriously compromised if there is conflict between two targets: for example, a devaluation of the home currency required to achieve external balance may push the economy away (or further away) from internal balance. In this situation it would not be possible to define a unique measure of the degree of over- or undervaluation of the exchange rate. In so far as a second policy instrument is available, the optimal combination of policies might involve varying degrees of exchange rate adjustment depending on the initial position and on how the other instrument affects external balance and aggregate domestic demand and supply. A detailed model of the whole economy would be required to determine this.

Thus, neither the purchasing power parity nor the external balance method are likely to yield reliable estimates of the degree of misalignment of exchange rates. The former, though easy to calculate, suffers from a number of important biases, while the latter requires a detailed knowledge of how the economy reacts to exchange rate changes and various policy interventions. A major deficiency of both approaches is that the notion of what actually constitutes an equilibrium exchange rate is not properly defined.

The limitations of the above methods have led to an alternative approach of trying to explain exchange rate movements in terms of models based on "fundamentals". A recent study[44] concludes that the appreciation of the US dollar against the Deutschmark between 1977 and 1984 can be explained by the differences in real interest rates and in real output growth in the two countries. Other studies,[45] however, have shown the performance of empirical exchange rate models to be quite poor so that the results of the previously mentioned study may not be repeated for different sample periods. A model that is stable over time and across countries does not appear to exist at present. And even if such a model existed it would not help to determine whether an exchange rate was under- or overvalued; all it does is to indicate to the policy maker the factors which determine changes in the exchange rate.

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[41] Base periods similar to the latter two have been used in recent calculations of real effective exchange rates. See Morgan Guaranty, *World Financial Markets*, various issues. The real effective exchange rate in chart 2.2.3 is based on a group of 14 countries' consumer price indices, bilateral trade weights and the geometric average procedure.

[42] See Hans Genberg, "Purchasing power parity under fixed and flexible exchange rates", *Journal of International Economics*, Vol. 8, 1978 and Jacob A. Frenkel, "The collapse of purchasing power parities during the 1970s", *European Economic Review*, Vol. 16, 1981.

[43] See Jacques R. Artus, "Methods of Assessing the long-run equilibrium value of an exchange rate", *Journal of International Economics*, Vol. 8, 1978 and John Williamson, *The Exchange Rate System*, Institute of International Economics, Washington, D.C., September 1983.

The above discussion has argued that the methods commonly used to provide a standard of reference for measuring the degree of exchange rate misalignment are seriously flawed both from the theoretical and practical points of view. Recent attempts to estimate the extent of overvaluation of the dollar are very limited in perspective in that they rarely, if ever, consider the behaviour of real exchange rates before the mid-1970s. Exchange rates may change, presumably, in response to real changes in economies; but if the effects of these real forces in the past cannot be isolated and measured, estimates of equilibrium exchange rates (and hence of the degree of over- or undervaluation) are unlikely to be convincing.

The difficulties involved in defining and estimating equilibrium exchange rates suggest that such estimates are unlikely to provide a reliable basis for the evaluation of policy changes. First, as an indicator of the stance of policy they are limited because the evidence suggests that real exchange rates fluctuate in response to factors which cannot be accurately separated from policy actions: therefore, as an indicator of policy, the usefulness of equilibrium exchange rate estimates is limited. Secondly, the usefulness of such estimates as intermediate targets is also questionable because, as suggested by the discussion above, reliable relationships have not been established between the real exchange rate and the fundamental target variables. Thus intervention in the foreign exchange markets needs to proceed with great caution, since the degree of over- or undervaluation cannot be defined with accuracy and because knowledge of the determinants of the exchange rate is highly imperfect. For example, a considerable difficulty facing the policy maker, as shown in chart 2.2.3, is that a currency may be under- or overvalued according to the choice of period and the method of calculation used in the comparison. Experienced practitioners of monetary policy appear to be aware of the limitations of intervention: perhaps the best that should be hoped for is some general agreement "as to an acceptable broad range of exchange rates—possibly deliberately fuzzy ... consistent with mutual balance of payments equilibrium ...".[46]

The dollar has in fact been falling since February 1985 but it is very difficult to judge how much further it should fall or, indeed, whether it should fall further at all. In the early months of 1986 there has been some concern at the consequences of a continued depreciation of the dollar.

(iv) Conclusions

The prospect is now for a strengthening of the economic upswing in the market economies of the ECE region. With the growth of output rising to around 3 1/2 per cent there is at last a possibility of a marked improvement in the growth of employment. This brighter outlook is largely due to the large fall in oil prices which has made the need for an easing of policies in western Europe less urgent. At a later stage, perhaps in 1987, policy changes may be required to sustain the higher pace of growth. The expected improvements in growth and economic balance in 1986 should anyway enlarge the scope for fiscal policy in western Europe to respond to the eventual restraining effects of reductions in the United States budget deficit, which will begin to be felt some time in 1987. At this later stage in the upswing it may also be necessary for policy coordination to bring about a world-wide reduction in nominal, and hence, real interest rates.

This outlook for more balanced growth in the developed market economies should contribute to greater stability in the world economy as a whole. The debt problems of the developing countries have already been mentioned in this context. It might also be expected, or at least hoped, that faster growth will help to curb the growth of protectionism in the developed countries and thereby ease another constraint on international trade in general and, in particular, on the exports of developing countries. But although protectionism increased in the wake of the recession, its reversal will not be easy. One reason for this is the well-known phenomenon that once vested interests have acquired special treatment they will fight hard to retain it.

But a second, and perhaps equally powerful, reason is that the new protectionism is, by design, poorly documented and less transparent than tariffs and other well-known instruments. This is evident from the ways in which protectionism has been developing: non-tariff barriers have been substituted for tariffs, industrial policies for trade measures, specific measures for general measures, and bilateralism for multilateralism. All of these substitutions make protectionism harder and more costly to document and amount to a large-scale erosion of the existing rules for international trade. Given this state of affairs the return to higher rates of growth will not be sufficient to reverse the drift away from free trade: a concerted and sustained international policy response is necessary.

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[44] Jeffrey D. Sachs, "The policy mix and the dollar", *Brookings Papers on Economic Activity*, 1, 1985. Sachs also shows that differences in fiscal policy can account for differences in the real interest rate. Thus the expansionary fiscal policy in the United States is seen as the major reason for the strong dollar.

[45] Richard Meese and K. Rogoff, "Was it real? The exchange rate-interest rate differential relation, 1973-1984". *International Finance Discussion Papers*, No. 268, Washington, D.C., 1985.

[46] Paul A. Volcker, in an address published in the Federal Reserve Bank of New York, *Monthly Review*, January 1976.

2.3 OUTPUT AND THE STRUCTURE OF DEMAND

Real GDP growth in western Europe in 1985 was about the same as in 1984, but there was a sharp deceleration in the United States. For the market economies as a whole total output rose by about 2 1/2 per cent compared with 4 1/2 per cent in 1984. Private consumption was a major support to growth, but in western Europe public consumption remained subdued. Investment in machinery and equipment rose strongly, but housing and other construction was sluggish. In the United States the trade deficit pulled down the growth in domestic production. This section reviews (i) changes in the level and pattern of output and (ii) changes in the structure of demand.

(i) Changes in the level and pattern of output

The cyclical upswing continued in 1985 for the third successive year and there are no indications that it will be interrupted in 1986. Preliminary estimates for total output growth in the market economies in 1985 confirm that it was in line with the forecasts made at the beginning of last year,[47] although the individual components of output and demand did not always develop as expected. For the 13 countries of *western Europe* combined total GDP increased by somewhat more than 2 1/4 per cent, about the same rate as in 1984. Growth rates in the smaller countries continued to be somewhat higher than those in the four larger economies (table 2.3.1).

In the *United States* GNP growth decelerated from about 6.5 per cent in 1984 to somewhat less than 2.5 per cent in 1985. This is significantly below the Administration's forecast of a growth rate close to 4 per cent in 1985.

The difference in growth rates between North America and western Europe was thus more or less eliminated in the course of 1985, the west European countries maintaining fairly steady growth and the United States decelerating sharply.

The slowdown in the United States did not come as a surprise. The high dollar exchange rate during the last two years, and especially in the first half of 1985, was eroding the competitiveness of the agricultural and industrial sectors in the United States. Domestic demand was leaking into imports with increasingly negative effects on domestic activity levels. Consequently, industrial production decelerated sharply, as did fixed investments in 1985.

The wedge driven by net imports between domestic demand and total output is illustrated in chart 2.3.1. For the United States the cumulative increase in real GNP between 1983 and 1985 was about 12.5 per cent, while the increase of domestic demand over the same period was just over 16 per cent. The difference is reflected in the unprecedented deterioration in the foreign balance: imports of goods and services increased by 35 per cent and the volume of exports declined by about 0.5 per cent. In western Europe, not only did GNP grow at a much more modest pace than in the United States over this period (6 per cent), but real domestic demand lagged behind output growth, reflecting the larger increase of exports (16 per cent) than of imports (12.5 per cent).

Although exports have continued to support output growth in western Europe, domestic factors, notably investment in machinery and equipment and private consumption (see below), became increasingly important in the second half of 1985.

TABLE 2.3.1

Annual changes in real GDP, 1983-1985
(Percentage change over previous year)

	1983	*1984*	*1985*
France	0.7	1.3	1.0
Germany, Federal Republic of	1.5	2.7	2.5
Italy	−0.4	2.6	2.4
United Kingdom [a]	3.4	2.5	3.5
Total 4 countries	*1.3*	*2.3*	*2.2*
Austria	2.1	2.0	3.0
Belgium	−0.1	1.3	1.7
Denmark	2.1	3.5	2.0
Finland	3.0	3.0	3.5
Ireland	—	4.4	2.5
Netherlands	0.9	1.7	2.0
Norway	3.9	3.8	4.4
Sweden	2.4	3.4	2.2
Switzerland	0.7	2.1	3.7
Total 9 countries	*1.6*	*2.5*	*2.6*
Total 13 countries	*1.4*	*2.3*	*2.3*
United States	3.4	6.6	2.3
Canada	3.3	5.0	4.0
Total above	*2.5*	*4.5*	*2.4*

Source: National statistics. For 1985 see Appendix to this section.

[a] Average of the three alternative measures of GDP.

Quarterly figures for GDP (which are not available for all west European countries) indicate a marked deceleration in the pace of economic activity after the third quarter of 1984. Expectations for a resumption of stronger growth in the first quarter of 1985 were disappointed mainly because of the effects of the harsh winter. In a few countries there were even absolute declines of output in the first quarter. Italy and the United Kingdom are exceptions to this pattern. In Italy, GDP had already fallen in the last quarter of 1984 but recovered in the first quarter of 1985. In the United Kingdom there was no deceleration mainly because of special factors, namely, the bunching of investment in the first quarter related to the phasing out of depreciation allowances and, in the second quarter, the effects of the end of the miners' strike on output and private consumption. In the second and third quarters of 1985 output and demand picked up in western Europe, with a very strong acceleration in the third quarter in the Federal Republic of Germany and Norway (table 2.3.2).

In the United States there was a sharp slowdown in the pace of economic activity in the second half of 1984. In the first quarter of 1985 output growth resumed but it quickly became

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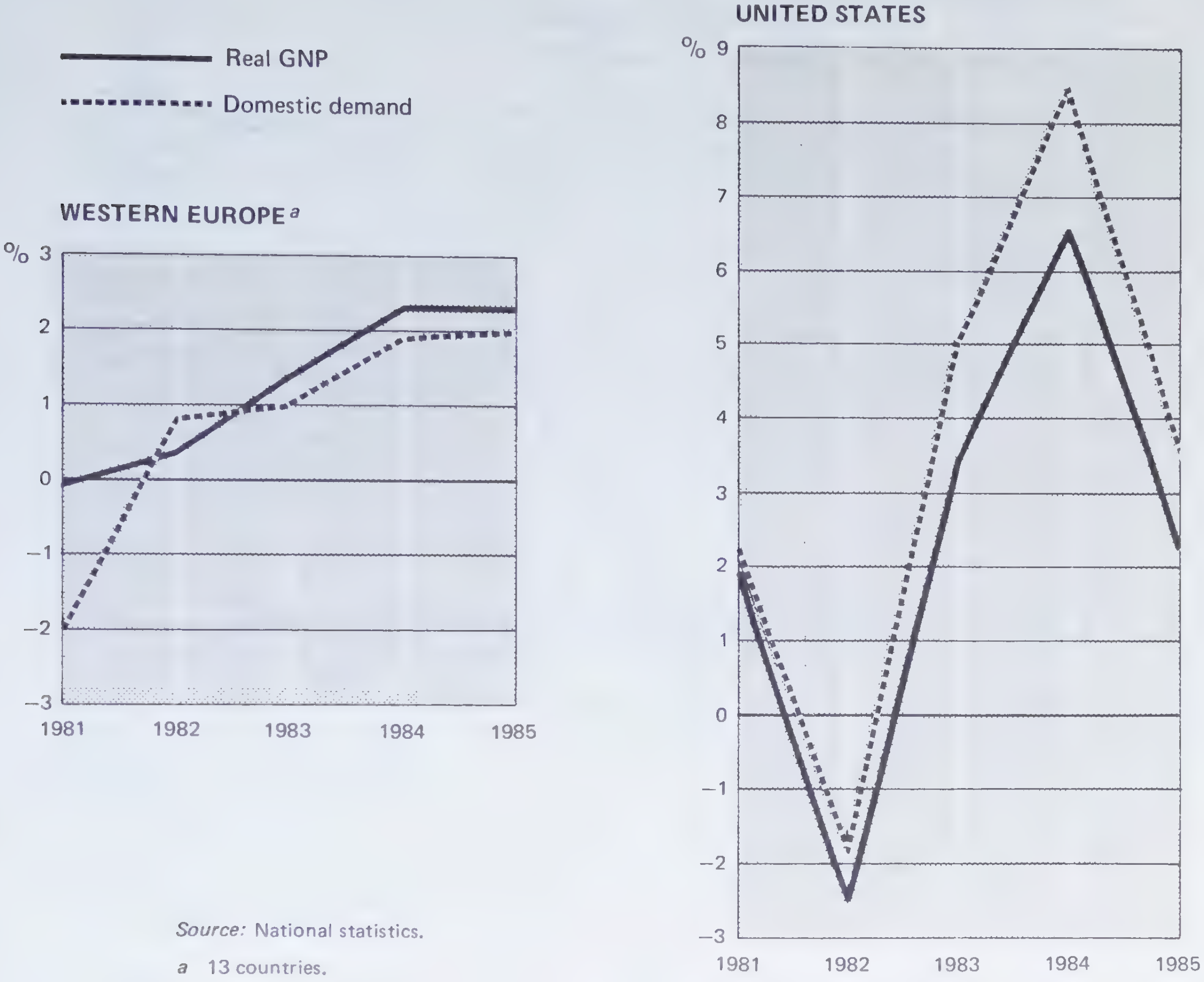
[47] Only in Norway and Switzerland was the outcome for 1985 much more favourable than expected, with the actual GDP growth rate exceeding the forecast by about 2 percentage points. In Norway this was mainly due to a much stronger than expected growth of private consumption, while in Switzerland there was a sharp acceleration in export growth.

CHART 2.3.1

Real GNP and domestic demand, 1981 – 1985

(Annual growth rates)



Source: National statistics.

a 13 countries.

TABLE 2.3.2

Quarterly changes in real GDP

(Percentage increase over previous quarter at annual rates; seasonally adjusted)

	1984		*1985*		
	III	*IV*	*I*	*II*	*III*
France	3.7	–0.8	–1.0	3.6	1.2
Germany, Fed. Rep. of	9.1 [a]	3.2	–4.6	5.6	9.2
Italy	4.4	–2.3	3.7	3.3	0.8
United Kingdom	3.5	3.8	4.5	4.9	1.1
Total 4 countries	*5.6*	*1.2*	*–0.5*	*4.5*	*3.9*
Norway	14.7	21.4	–12.1	–7.4	22.7
Sweden	7.0	4.9	–0.4	2.8	6.6
Canada	6.6	2.8	2.8	4.5	7.0
United States	2.1	0.6	3.7	1.1	3.0

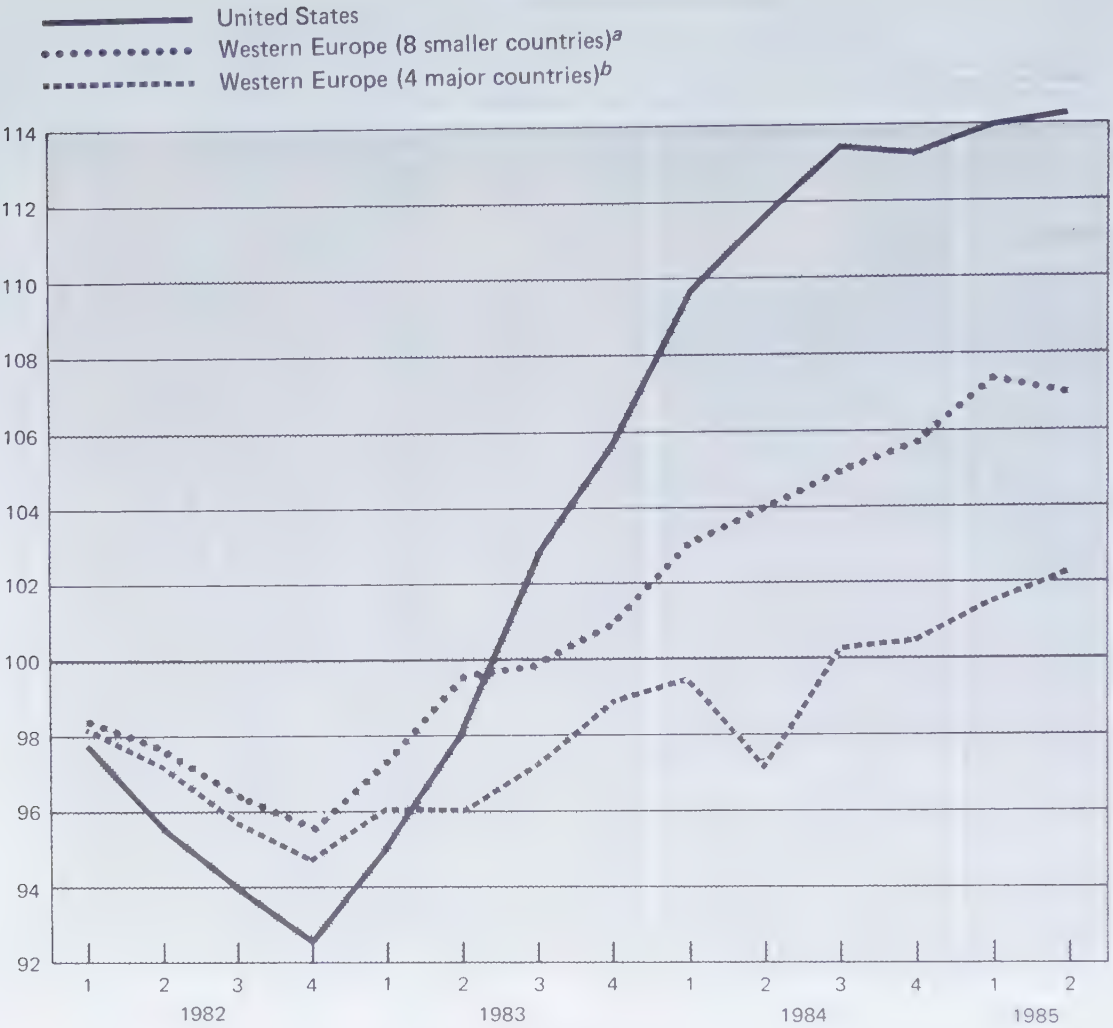
Sources: USA: US Department of Commerce, Bureau of Economic Analysis, *NEWS*; Federal Republic of Germany: *Statistische Beihefte zu den Monatsberichten der Deutschen Bundesbank*, Nr. 1/1986; France, Italy, Canada: OECD, *Main Economic Indicators*, December 1985; United Kingdom: CSO Press Release, 20 December 1985; Sweden SCB, *Nationalräkenskaper*, BNP-Kvartal 85:3; No. 1/1986. Norway: Statistisk Sentralbyrå, *Økonomiske analyser*, Nr.1-1986. Canada: Statistics Canada, *Canadian Statistical Review*, January 1986. Note that the data for Norway are at *1984* prices and are not seasonally adjusted.

[a] Influenced by strike in the second quarter of 1984.

CHART 2.3.2

Industrial production: recession and recovery

(Indices, 1980 = 100; seasonally adjusted)



Source : OECD, *Main Economic Indicators,* Paris.

a Austria, Belgium, Finland, Ireland, Netherlands, Norway, Sweden, Switzerland.

b France, Germany, Fed. Rep. of, Italy, United Kingdom.

clear that the expansion had lost its strength[48] and that the growth forecasts for the year as a whole would have to be revised downwards. In fact, after another sharp deceleration in the second quarter, there was a modest upturn in the second half of the year.

Industrial production continued to rise in all the market economies of the ECE region and, in general, at somewhat higher rates than for total output. However, as with total GDP, the overall tendency was for a deceleration in the annual rate of growth (table 2.3.3). There was a much sharper slowdown of industrial activity in North America (see also chart 2.3.2).

The major exceptions to this general pattern are the Federal Republic of Germany and the United Kingdom, where growth rates accelerated sharply. In the United Kingdom this reflects the recovery of the energy sector after the end of the miners' strike: output growth in manufacturing industry actually slowed down. In the Federal Republic of Germany the driving

TABLE 2.3.3

Index numbers of industrial production

(*Percentage change over previous period*)

	1983	*1984*	*1985**
France	1.0	2.0	1.5
Germany, Fed. Rep. of	0.7	3.4	6.0
Italy	−3.2	3.4	2.5
United Kingdom	3.3	1.2	5.0
Total 4 countries	*0.6*	*2.6*	*4.0*
Austria	0.9	5.4	4.5
Belgium	2.0	2.9	3.5
Finland	2.9	5.6	3.0
Ireland	6.4	12.8	6.0
Netherlands	2.1	5.2	2.5
Norway	8.1	5.6	3.0
Sweden	4.5	7.1	2.5
Switzerland	−1.0	2.1	4.0
Total 8 countries	*2.4*	*4.8*	*3.5*
United States	6.0	11.4	2.0
Canada	6.0	8.5	3.5
Total North America	*6.0*	*11.2*	*2.0*

Source: OECD, *Main Economic Indicators*, Paris; and ECE secretariat estimates. Figures for 1985 are rounded to the nearest half of a percentage point.

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[48] The recently published revised US national accounts figures differ significantly from the old series. The latter showed an acceleration in the fourth quarter of 1984 (compared with the previous quarter) and locate the stagnation only in the first quarter of 1985.

TABLE 2.3.4

Capacity utilization rates in manufacturing industry
(Per cent)

	1979	*1983*	*1984*	*1985*	*Percentage change from 1985-I to 1985-IV*
France	84.6	81.5	81.9	82.8	0.9
Germany, Fed. Rep. of	84.2	77.0	80.2	83.7	2.5
Italy	75.4	70.0	72.0	74.0	−0.3
United Kingdom	84.2	76.6	82.5	85.5	1.7
Austria [a]	86	79	80	83	..
Belgium	76.2	75.8	76	78.8	2.4
Ireland	68.1	58.0	61.5	57.3	2.9
Netherlands	81.4	79.5	82.3	83.8	0.1
Sweden	83.0	82.2	85.5	87.4 [b]	0.3 [c]
United States	86.0	74.0	80.0	80.3 [b]	−0.4 [c]
Canada	85.7	71.5	75.7	76.0 [d]	..

Source: Belgium, France, Federal Republic of Germany, Ireland, Italy, United Kingdom: Commission of the European Communities, *European Economy*, Supplement B, November 1985, Table 3; Sweden: Statistiska Centralbyran, *Statistiska Meddelanden* (Industrins Kapacitetsutnyttjande); Canada, United States: OECD, *Main Economic Indicators*, Paris; Austria: Oesterreichisches Institut für Wirtschaftsforschung, *Monatsberichte*, No. 1/1985 and 1/1986.

[a] Data refer to November of corresponding year.

[b] Average of first three quarters.

[c] Third quarter.

[d] First quarter.

TABLE 2.3.5

Capacity utilization in major sectors of manufacturing industry in the European Community [a]

	Per cent			
	1983	*1984*	*1985*	*Percentage point increase 1985-I to 1985-IV*
Consumer goods	80.2	79.3	81.7	0.6
Investment goods	76.8	77.6	82.2	3.4
Intermediate goods	75.9	79.5	80.9	−0.6
Total industry	77.1	79.1	81.6	1.2

Source: Commission of the European Communities, *European Economy*, Supplement B, November 1985, table 5.

[a] Excluding Greece.

force behind the acceleration was the vigorous expansion of output in the investment goods sector, a result of a strong demand for machinery and equipment in the home market and, notably, abroad.

Capacity utilization rates

In western Europe capacity utilization (CU) rates in manufacturing industry in 1985 were 2-3 points above the average rates in 1984 (table 2.3.4). In the United States, in contrast, the CU rate fell slightly during the year and, for the year as a whole, was probably somewhat below the average rate in 1984. For a number of countries, however, the comparison of average annual rates conceals the relative sluggishness of economic activity during the course of the year: in Italy, the Netherlands and Sweden, CU rates more or less stagnated between the beginning and the end of 1985.

Within manufacturing industry there was a particularly strong increase in the CU rates of the investment goods producing branches, [49] clearly the effect of the buoyant demand for machinery and equipment. For the member countries of the European Community the average utilization rate in this sector rose in 1984/85 by 4.6 points, compared with 2.5 points for total industry. Table 2.3.5 also indicates a strong acceleration in the pace of activity in the investment goods sector relative to the other branches: from the first to the fourth quarter of 1985 the CU rate rose by 3.4 points, in contrast to only 0.6 points in the consumer goods sector and a decline of 0.6 points in the intermediate goods sector.

Despite this general increase in capacity utilization, business surveys suggest that the majority of firms in manufacturing industry still consider the available capacity to be more than sufficient to meet the expected increase in the demand for goods. Two striking deviations from this average picture are Denmark and the Netherlands, where there was virtually no spare capacity at the end of 1985. [50]

Sectoral contribution to output changes

The sectoral composition of total output has changed with the cyclical variations of the last six years. Comparing output levels in 1979, the last major cyclical peak in western Europe, and in 1982, the trough year of the recession, the losers in both

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[49] In Austria there has been a particularly sharp rise in capacity utilization in the basic goods sector: it rose from 69 per cent in 1984 to 83 per cent in 1985—thus making a significant contribution to the rise in the average CU rate for total industry. But this rise reflects not so much higher output levels as the reduction of capacities in the petroleum industry.

[50] Commission of the European Communities, *European Economy*, Supplement B, November 1985, tables 4 and 5.

TABLE 2.3.6

Sectoral contribution to changes in total GDP
(I. Cumulative change in per cent; II. Percentage point contribution to total change)

	Western Europe				*United States*			
	1979-1982		*1982-1985*		*1979-1982*		*1982-1985*	
Sectors	*I*	*II*	*I*	*II*	*I*	*II*	*I*	*II*
Agriculture	12.0	0.5	2.8	0.1	13.4	0.3	5.2	0.2
Mining, utilities	0.3	—	10.1	0.6	2.9	0.1	4.7	0.2
Manufacturing	−3.4	−1.0	7.5	2.1	−8.3	−1.7	19.1	4.4
Construction	−5.6	−0.4	−4.0	−0.2	−16.0	−0.5	14.1	0.5
Services	3.8	1.6	7.3	3.1	3.9	1.9	15.3	8.4[a]
Government sector	4.7	0.6	2.9	0.4	2.1	0.2	1.7	0.2
Total output change (per cent)	1.3	1.3	6.0	6.0	0.2	0.2	13.8	13.8

Source: National statistics and ECE secretariat estimates.

Note: Figures may not add up to total because of rounding.

[a] Cumulative change in per cent.

western Europe and the United States were manufacturing and the construction industry. For both sectors the drop in output was much sharper in the United States than in Europe (table 2.3.6). Output of services grew at the same pace in both areas and nearly (USA) or more than (western Europe) offset the output decline in the other industries.

During the period of recovery (1982-1985) there is again a striking difference between the amplitude of the cyclical fluctuations in the United States and western Europe. In the United States manufacturing production rose by 19 per cent and service output by some 12 per cent, together accounting for roughly 90 per cent of the recovery in total output. In western Europe output in both these sectors rose by roughly the same amount between 1982 and 1985 (7 per cent), and the growth of total output (6 per cent) was more modest than in the United States. In both western Europe and the United States a significant part of the increase in manufacturing production was simply an offset to the absolute decline that had occurred during the recession, whereas the output of services had been growing continuously.

Clearly the manufacturing and service sectors in the United States were much more vigorous in the recovery, but this reflects the more expansionary stance of US fiscal policy in the last few years. Nevertheless, the relative roles of these two major sectors were broadly the same in both areas, with manufacturing accounting for about one third of the rise in total output and the service sector for some 50 per cent in western Europe and 60 per cent in the United States.

(ii) The components of demand

(a) Private consumption

Real private consumption expenditures grew more rapidly than in 1984 in virtually all the west European economies. For the 13 west European countries combined the growth rate nearly doubled from 1 per cent in 1984 to just below 2 per cent in 1985 (table 2.3.7). Belgium was the only country where real consumption hardly changed, a reflection of stable employment and higher taxes on household income. In many countries

TABLE 2.3.7

Annual changes in real private and public consumption, 1983-1985
(Percentage change over previous year)

	Private consumption			*Public consumption*		
	1983	*1984*	*1985*	*1983*	*1984*	*1985*
France	1.0	0.7	1.3	1.5	0.3	1.1
Germany, Fed. Rep. of	1.1	0.6	1.7	0.3	2.4	2.2
Italy	−0.3	1.8	2.3	2.4	2.7	1.9
United Kingdom	4.0	1.7	2.5	1.9	1.0	—
Total 4 countries	*1.3*	*1.0*	*1.8*	*1.2*	*1.6*	*1.4*
Austria	5.4	−0.8	2.5	2.2	0.9	1.5
Belgium	−1.5	0.8	0.2	0.5	−0.2	0.5
Denmark	1.7	2.7	2.5	−0.6	−0.6	0.7
Finland	2.7	3.0	3.0	4.0	3.8	3.0
Ireland	−2.0	−0.5	1.8	−0.1	−1.2	0.5
Netherlands	0.4	−0.5	1.5	1.0	−1.5	0.5
Norway	1.2	1.5	7.5	3.7	2.0	3.2
Sweden	−1.8	1.3	2.8	0.8	2.0	0.9
Switzerland	1.6	1.3	1.7	3.8	1.7	2.0
Total 9 countries	*0.6*	*0.9*	*2.2*	*1.4*	*0.7*	*1.2*
Total 13 countries	*1.2*	*1.0*	*1.9*	*1.3*	*1.4*	*1.4*
United States	4.6	4.4	3.2	1.0	4.3	5.8
Canada	3.1	3.7	4.0	0.6	2.6	2.5
Total above	*3.0*	*2.8*	*2.7*	*1.1*	*2.9*	*3.7*

Source: National statistics

most of the increase seems to have occurred in the second half of the year.

As indicated above (see 2.3(i)), economic activity was badly affected in the first quarter by the harsh winter. There were also a number of other specific factors: in the United Kingdom, for instance, the miners' strike had still to be settled and in the Federal Republic of Germany there was a pent-up demand for motor cars because of uncertainties surrounding the tax regulations on installations designed to reduce the level of motor car exhaust emissions. In Austria orders for private motor cars were probably brought forward to the third quarter because of tax changes on vehicles not conforming to the new environmental regulations which entered into force in autumn 1985. However, the major general factor behind the acceleration in consumer expenditures was the decline in the rate of inflation in all countries. This made for a higher growth of real disposable income even in the few cases where the growth of nominal income was unchanged. An additional overall factor was the increase in total employment and the decline of the number of persons working short time. Only in Belgium, France and Ireland was private consumption restrained by stagnation or declines in the level of employment. Moreover, the fall in interest rates increased the willingness of households to take on more credit. From the limited and preliminary statistics available to date there appears to be no general trend in the movement of households' savings ratios. In some countries they remained more or less unchanged (as in the Federal Republic of Germany), in others they appear to have fallen markedly (as in France, Norway and Sweden), while in the United Kingdom and Italy they increased slightly.

The growth of real consumer expenditures, nevertheless, remains relatively low, reflecting the generally modest growth of wages. However, this was not the case in the United Kingdom where, despite the high level of unemployment, average nominal incomes rose at a markedly faster pace than in the other west European countries. (Part of this reflects the once-and-for-all effect of the recovery of wages and salaries after the settlement of the miners strike.) Real disposable income also rose strongly in Norway, where the rise in real consumption was the highest in the whole region. This reflects the expansionary fiscal policy pursued in Norway over the last two years and the easing of credit conditions following the deregulation of the financial markets. The household savings ratio declined sharply and consumer debt increased:[51] in contrast to the majority of European countries, interest payments on consumer debt are tax deductible in Norway.

In France the major support to private consumption came from the fall in inflation rates and the household savings ratio, total nominal disposable incomes growing at approximately the same rate as in 1984. The falling inflation rate was also the dominant factor in Italy, where there was actually a slowdown in the growth of nominal disposable income and a slight increase in the savings ratio.

In the United States private consumption was the major support to economic growth in 1985, even after allowing for the fact that a large share of consumer demand was met by imported goods. Employment growth decelerated, as did average earnings. However, the subsequent fall in the growth of disposable income was more than offset by a marked decline in the household savings ratio and a large rise in consumer debt. In fact, in the third quarter of 1985 the household savings ratio—which has been declining since 1973—dropped to an historically low 3.7 per cent of disposable income.[52] (The average savings ratio for 1980-1984 was 6.7 per cent.) This has led to fears that the rising burden of interest and debt repayments may act as a brake on consumer spending in the near future.

In western Europe the forecasts for real private consumption in 1986, made before the recent slide in oil prices, were in general for a higher rate of growth than in 1985. In fact, consumer expenditure is expected to be the major support to continuing domestic output growth in 1986. An important factor behind this, in nearly all countries, is an accelerating growth of real disposable incomes, due in turn to the combined effect of higher nominal incomes, lower inflation rates and a steady although modest rise in total employment. Moreover, in some countries consumer expenditures will receive an additional stimulus from lower income taxes (France, the Federal Republic of Germany and, possibly, the United Kingdom). In contrast to the other west European countries, there is likely to be a marked slowdown in the growth of real consumer expenditures in Norway and Sweden. In Norway this is mainly due to the sharply decelerating demand for imported cars and the fact that the savings ratio, which fell quite strongly in 1985, will either stabilize or increase slightly; in Sweden, it reflects the negative impact of changes in taxes and transfer payments on disposable incomes.

A strong deceleration in consumer expenditures is also expected in North America. In Canada this is caused by a sizeable slowdown in the growth of disposable incomes due to smaller increases in business profits and transfer payments and an increase in direct taxes. In the United States this prospect is mainly based on the assumption that the household savings ratio will stabilize or even rise: but there is considerable uncertainty about this. Real disposable incomes are in any case expected to grow at about the same rate as in 1985. Nevertheless, private consumer expenditures—as in western Europe—will be a major support to domestic output growth in 1986.

(b) Stockbuilding

The contribution of stockbuilding to GDP/GNP growth was generally modest in 1985. In a number of countries it had a strong dampening effect on domestic demand: this was the case in Austria, Finland and Ireland, and to a lesser degree in Denmark and France. In contrast, stock changes contributed strongly to total growth in the Netherlands, Norway, Sweden and the United Kingdom. For western Europe as a whole stockbuilding had accounted for nearly a quarter of total output growth in 1984, but in 1985 its relative contribution was about halved.

There was also a strong turnround in the stock cycle in the United States as a result of the deceleration in the pace of economic activity. In 1984 the change in stocks had accounted for about 30 per cent of total GDP growth, but in 1985 its contribution was negative (−0.8 percentage points).

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[51] This is largely reflected in an exceptionally large increase in purchases of private motor cars in 1985. These rose by more than 40 per cent in real terms in 1985 and contributed significantly to the sharp acceleration of total consumers' expenditure.

[52] This is according to the US definition of savings. It is not easy to compare savings ratios across countries because of different accounting practices relating *inter alia* to the financing of dwellings and the treatment of savings in the non-corporate sector. Thus, for example, a study made by the Deutsche Bundesbank attempts to compare the household savings ratios in the United States and the Federal Republic of Germany by calculating the ratio for the US according to the Federal Republic's accounting principles. For the period 1980-1982 this comes to 11 per cent—a sizeable difference from the original 6.3 per cent. (These calculations were based on the old national accounts data for the United States.) See: "Die Sparquote der privaten Haushalte in der Bundesrepublik Deutschland im internationalen Vergleich", in *Monatsberichte der Deutschen Bundesbank*, 36 Jg., Nr. 1/1984, pp. 30-35.

TABLE 2.3.8

Changes in the components of gross fixed capital formation
(Percentage change over previous year)

	Machinery and equipment		*Structures, buildings*	
	1984	*1985*	*1984*	*1985*
France	1.5	..	..	..
Germany, Fed. Rep. of	−0.5	8.8	1.6	−6.7
Italy	9.5	11.3	−0.5	−1.9
United Kingdom	6.8[a]	..	9.0	..
Austria	4.6	9.0	−0.5	—
Belgium	..	..	..	..
Denmark	16.0	19.5	9.4	9.4
Finland	1.5	1.1	−4.7	2
Ireland	7	8	−10	−4
Netherlands	8.7	10.5	3.0	−3
Norway[b]	16.9	5.1	11.0	−12
Sweden	3.2	16.5	2.0	0.2
Switzerland	3.9	9.0	4.1	2.2
United States[a]	22.2	10.1[c]	13.9	6.1[c]
Canada	4.8	3.4[c]	−1.7	7.7[c]

Source: National statistics.

[a] Private sector only.

[b] The growth rates for 1984 and 1985 are not directly comparable because of the base year change from 1980 (for the 1984 figure) to 1984 (for the 1985 figure). Figures for machinery and equipment exclude ships and boats.

[c] Based on first nine months.

In 1986 an acceleration of stockbuilding is expected in the United States, thus again providing a positive contribution to total growth. In western Europe, the forecasts made towards the end of 1985 envisaged only a very small contribution to growth from stockbuilding.

(c) Public consumption

Changes in real government consumption in western Europe remained subdued in 1985, reflecting unchanged fiscal policies in the majority of countries which aim to reduce or stabilize budget deficits (table 2.3.7). Consequently it has been exceptional in the last few years for government consumption to grow faster than total domestic demand. Nevertheless, public expenditures continued to rise relatively fast in Finland, Norway and Switzerland. However, only in Finland and Norway did the contribution of public consumption to total growth exceed more than half a percentage point; the average contribution in western Europe was more modest (0.25 percentage points).

The west European experience here is in striking contrast to the United States, where government consumption has been a major factor behind the expansion of domestic demand. Over the last two years government consumption increased by about 10 per cent compared with about 3 per cent in western Europe. The contribution to economic growth has been significant and increased slightly in 1985.

Forecasts for 1986 point to a further deceleration of public consumption growth in the majority of the countries reviewed. Only in France, Denmark, Sweden and the United Kingdom do existing plans point to slightly higher growth rates. For western Europe as a whole the increase should be about the same as in 1985 (1.4 per cent).

A sizeable decline in the growth of government consumption in the United States is expected in 1986: a rise of less than 3 per cent compared with over 5 per cent in 1985. This deceleration is partly due to cyclical factors and lower interest charges on the public debt. Attempts to reduce the structural budget deficit may also begin to have some impact towards the end of the year.

(d) Fixed investment

The overall conditions for business investment in western Europe have been relatively favourable over the last two years. Increasing demand, higher rates of capacity utilization, together with improved profitability and rising business confidence, led to a significant rise in expenditures on machinery and equipment. Evidence from business surveys also suggests that investment in 1985 was increasingly motivated by the desire to augment production capacities.

There was a marked acceleration in 1985 of expenditures on machinery and equipment in those countries where the increase had been relatively small in 1984 (Austria, Finland, the Federal Republic of Germany, Sweden and Switzerland), while in other countries the high rates in 1984 were more or less maintained (Denmark, Ireland, Italy, the Netherlands). In contrast, this category of investment remained sluggish in Belgium and France. There was, furthermore, a sharp drop in investment growth in Norway after a vigorous expansion in 1984: this largely reflects the volatility of investment in the oil sector. The slowdown in the United Kingdom had been expected and mainly reflects the bringing forward of investments into 1984 and early 1985 in anticipation of the phasing out of tax allowances on investment in the spring of 1985.

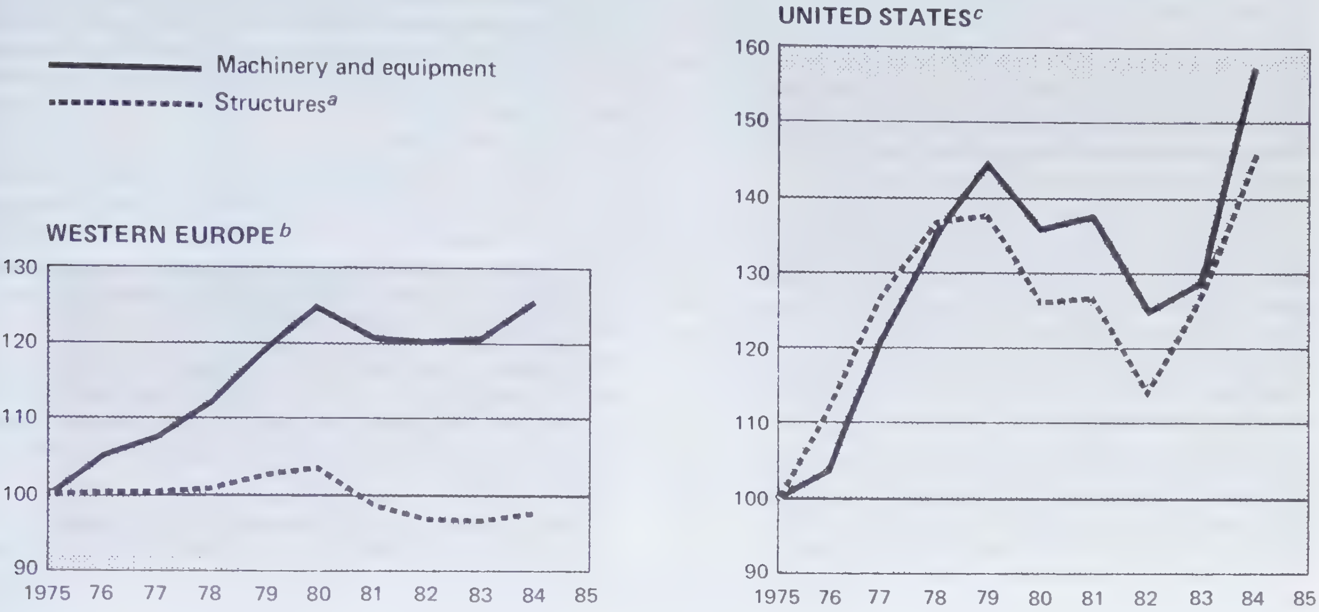
From the available data it appears that in nearly all countries most of the surge in investment expenditures was in the manufacturing sector. Investment behaviour in the non-manufacturing sectors varied much more between countries. It should also be noted here that the underlying strength of investment in industry may be difficult to assess in so far as an increasing part of the capital equipment used is leased from other companies, usually financial companies in the service sector. However, in the national accounts statistics capital assets are allocated to the different sectors on the basis of ownership rather than use.

Investment in structures was in striking contrast to that in machinery and equipment. The general tendency was for a further decline or only modest growth. This reflects the continuing weakness of public investment, the sluggishness in industrial building and, especially, the deep-rooted structural problems in the housing sector in many countries (chart 2.3.3). The latter

CHART 2.3.3

Changes in the components of real fixed investment

(1975 = 100)



Source: National statistics.

a Including dwellings.

b 13 countries.

c Private investment.

are partly due to the saturation of demand in some countries, the negative impact on the demand for housing of low growth rates of real disposable incomes, and the high real interest rates of recent years. Moreover, production capacities in the construction sector appear to have been held artificially high in many countries by various tax-subsidy schemes which, implemented occasionally, give only a temporary boost to the demand for housing. Thus, in the Federal Republic of Germany such schemes led to a sharp rise in the construction of dwellings in 1983; thereafter the housing market stagnated and in 1985 there was a sharp decline of investment in dwellings which completely offset the large increase in expenditures on machinery and equipment.

The net effect of these generally opposing changes in machinery and equipment on the one hand and structures on the other, was an increase in total investment in 1985 which was somewhat lower than in 1984 (table 2.3.9).

In Canada there was a sharp acceleration in investment growth after two years of decline (1982-1983) and only modest growth in 1984. In the United States the weaker growth of investment was not unexpected. Indeed, it somewhat exceeds expectations at the beginning of last year for an average rise of 6 per cent and reflects the normal cyclical downturn accom-

TABLE 2.3.9

Annual changes in real gross domestic fixed capital formation, 1983-1985

(Percentage change over previous period)

	1983	*1984*	*1985*
France	−2.3	−2.2	0.2
Germany, Federal Republic of	3.2	0.8	−0.8
Italy	−3.8	4.1	4.5
United Kingdom	4.6	8.2	4.2
Total 4 countries	*0.7*	*1.6*	*1.2*
Austria	−0.9	2.0	4.5
Belgium	−4.1	1.1	3.2
Denmark	1.6	12.5	8.0
Finland	4.7	−2.0	5.0
Ireland	−9.1	−1.8	2.2
Netherlands	0.4	4.3	2.3
Norway	1.4	11.1	−13.8
Sweden	1.6	3.9	6.3
Switzerland	4.3	4.0	4.7
Total 9 countries	*0.8*	*4.1*	*3.4*
Total 13 countries	*0.7*	*2.2*	*1.6*
United States	7.9	17.6	7.5
Canada	−5.7	0.7	6.5
Total above	*3.2*	*8.7*	*4.5*

Source: National statistics

panying the weakening of final demand after the vigorous expansion in 1983/84.[53]

Investment in dwellings stagnated, after increases of 43 per cent in 1983 and 13 per cent in 1984. The relatively strong rise in non-residential fixed investment nevertheless remains somewhat surprising. For example, manufacturing industry planned to increase expenditures on new plant and equipment by 10 per cent in 1985 after an already large rise of 19 per cent in 1984.[54] On closer inspection, however, it appears that this is largely a statistical carry-over effect. Thus, if total fixed investment had remained in each quarter of 1985 at the average level of the last quarter of 1984, this alone would have been sufficient to produce a year-on-year increase in 1985 of about 4 per cent. For producer durables (machinery and equipment) the same effect would be even larger (about 7 per cent).

Before the sharp fall in oil prices the outlook for 1986 was in general for an improvement in the pace of investment in western Europe. This mainly reflects a modest acceleration of total investment in France and a marked improvement in the Federal Republic of Germany, partly because of the special factors noted above. In many of the smaller countries a deceleration was expected, particularly of expenditures on machinery and equipment.

The outlook is more uncertain for the United States. Forecasts made at the end of last year, before the sharp fall in oil prices and the stronger than expected devaluation of the US dollar, point to an overall growth of fixed investment of only 1.5 per cent. In fact, a Department of Commerce business survey carried out in autumn 1985 indicated that firms in manufacturing industry actually planned to reduce real expenditures on plant and equipment in 1986 by 4 per cent. It is likely, however, that these figures are too pessimistic. The survey responses were probably influenced by the discussions in Congress of the Administration's plans to eliminate tax credits and to curtail depreciation allowances as part of the planned tax reform. However, it is now unlikely that any of these tax changes will be enacted before 1987. If they are announced for 1987, the consequence is likely to be an acceleration of business investment in 1986. Also, the outlook for profits may be now more favourable given, notably, the brighter outlook for exports. Residential investments may also grow more than forecast if interest rates continue to decline.

(e) Foreign demand

Exports of goods and services from the market economies of the ECE region increased in 1985 by about 3.5 per cent, a marked slowdown from the 7 per cent growth in 1984 (table 2.3.10). Some deceleration had been anticipated in the forecasts made at the beginning of last year, but the actual performance was about 1 1/2 percentage points below the expected rate of 5 per cent. The weak export performance of the United States was largely responsible for this slower growth: exports were expected to rise 6.5 per cent, but they actually fell by about 3 per cent.[55]

In western Europe export growth in 1985 turned out to be somewhat stronger than expected. Among the four major countries, only in France was export growth markedly lower than in 1984. Exports from the other three large economies rose at roughly the same rate as in 1984. There was considerable variation among the smaller countries, with export growth ranging from 8-9 per cent in Austria and Switzerland to 2-5 per cent in the Scandinavian countries. For the 13 west European countries combined total exports rose by 5.5 per cent in 1985 compared with 6.8 per cent in 1984.

Import growth weakened more than exports in 1985 and was somewhat below earlier forecasts of some 6 per cent for western Europe as a whole. Import growth continued to be relatively weak in Belgium and France and decelerated strongly in the United Kingdom. In contrast to the common pattern, there was faster import growth in Norway and Sweden.

The growth of imports into the United States decelerated sharply from about 24 per cent in 1984 to 2 per cent in 1985. This slowdown was much more marked than anticipated and reflects the stronger than expected fall in the growth of domestic demand.

It is worth noting that the deceleration in the demand for foreign goods in the United States did not have a significant negative effect on the aggregate export performance of western Europe. This is because the United States market accounts for about only 8 per cent of all west European exports. For the west Europeans, trade among themselves, which accounts for some two thirds of their total exports, is much more important.[56]

For the west European countries combined, the changes in net foreign demand made about the same positive contribution to total output growth as in 1984, i.e., about 0.4 percentage points (table 2.3.11). Among the major countries the only exception is Italy, where imports continued to outpace export growth. There are some large differences in the contribution of foreign demand among the smaller countries. In the Scandinavian countries (particularly Norway and Sweden) net foreign demand had a large negative impact on total output growth, while in Austria, Ireland and Switzerland the impact was large and positive.

In the United States net imports continued to pull down the overall growth rate of GNP. In 1985 the rise in real total domestic demand by about 3 per cent was lowered by roughly 0.6 percentage points to give a GNP growth rate of 2.3 per cent.

Currently available forecasts for 1986, which were mostly prepared at the end of last year, point to some slowing down in west European export and import growth. There are recent indications, however, that the overall economic prospects for western Europe may be better than implied by these forecasts. This improvement arises from a strengthening of domestic demand, but this in turn is likely to lead to a faster growth of imports—and given the importance of intraregional trade—to better prospects for exports. In any case, the foreign sector is not expected to make a significant contribution to total output growth in western Europe. In the United States, the unfavourable effects of the current account balance are expected

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[53] The strong investment boom in the United States in 1983 and 1984 has often been associated with the tax changes enacted with the Economic Tax Recovery Act of 1981 and the Tax Equity and Fiscal Responsibility Act of 1982. However, recent studies cast some doubt on whether the tax reductions really had a substantial impact on the investment performance in 1983/84. It has been argued, for example, that "office equipment and automobiles account for 93 per cent of the growth in equipment spending since 1979—a pattern that causes problems for an explanation of the growth in investment spending that emphasizes the 1981-82 tax reduction. Not only did the tax act make almost no change in the tax treatment of automobiles, it actually increased the tax rate on computers". See Barry Bosworth, "Taxes and the Investment Recovery", *Brookings Papers on Economic Activity*, No. 1/1985, p. 4.

[54] *Survey of Current Business*, June 1985, pp. 21-22.

[55] A large decline in agricultural exports was a major factor behind this development.

[56] See below, section 2.5, table 2.5.2.

TABLE 2.3.10

Volume of trade in goods and services,[a] 1983-1985

(Annual percentage change)

	Exports			Imports		
	1983	*1984*	*1985*	*1983*	*1984*	*1985*
France	4.4	6.9	3.0	−0.6	2.6	2.7
Germany, Fed. Rep. of	−0.2	8.0	7.2	0.8	5.5	4.6
Italy	3.3	7.0	6.0	0.1	9.6	8.0
United Kingdom	2.2	6.9	7.1	6.1	9.4	3.8
Total 4 countries	*1.9*	*7.4*	*5.9*	*1.3*	*6.0*	*4.3*
Austria	3.1	3.5	9.5	5.7	7.7	6.2
Belgium	3.1	4.5	4.0	−0.1	4.6	3.0
Denmark	3.8	3.5	4.4	0.3	6.2	6.4
Finland	3.7	6.1	4.0	3.6	1.2	4.5
Ireland	10.5	16.9	6.5	4.7	9.5	2.2
Netherlands	3.6	7.0	4.0	3.3	5.9	4.0
Norway	7.3	5.1	4.9	0.1	6.2	7.0
Sweden	10.7	6.5	2.0	0.4	4.7	8.1
Switzerland	1.0	6.1	8.3	4.4	7.1	5.6
Total 9 countries	*4.4*	*5.8*	*4.9*	*2.2*	*5.7*	*5.0*
Total 13 countries	*2.8*	*6.8*	*5.5*	*1.6*	*5.9*	*4.6*
United States	−3.5	6.2	−2.9	9.9	23.6	2.1
Canada	6.4	19.5	4.2	8.1	14.4	5.5
Total North America	−1.7	8.8	−1.3	9.5	21.9	2.7
Total above	1.4	7.4	3.5	4.0	11.0	3.9

Source: National statistics and official sources listed in the appendix to this section.

[a] National account basis.

TABLE 2.3.11

Contribution of net foreign demand (NFD) to changes in GDP, 1983- 1985

(Percentage point contribution)

	1983		*1984*		*1985*	
	NFD	*GDP growth (%)*	*NFD*	*GDP growth (%)*	*NFD*	*GDP growth (%)*
Western Europe	0.41	1.4	0.41	2.2	0.42	2.3
4 major countries	*0.20*	*1.3*	*0.49*	*2.1*	*0.55*	*2.2*
9 smaller countries	*1.05*	*1.6*	*0.20*	*2.5*	*−0.06*	*2.6*
United States	−1.44	3.5	−2.00	6.5	−0.58	2.3

Source: As for table 2.3.10.

to shrink considerably, mainly as a consequence of the lagged effects on trade flows of the dollar depreciation in 1985. Export growth is expected to resume, at a rate of 3 per cent, while the growth of imports is expected to decelerate further to around 3.5 per cent.

APPENDIX

This section has referred to official forecasts of GDP and its components in 1985 and 1986. Regional aggregates were made by the ECE secretariat on the basis of the dollar values of the relevant variables at 1975 prices and exchange rates. The sources of the various forecasts (and in many cases for estimates of 1985 as a whole) were as follows:

Austria: WIFO *Monatsberichte* 12-1985 and 1-1986.

Belgium: Ministère des Affaires Economiques, *L'Economie Belge en 1984, Synthèse Annuelle I* (May 1985) and OECD *Economic Outlook*, December 1985.

Canada: OECD *Economic Outlook*, December 1985.

Denmark: Economic Council, *Dansk Økonomi*, December 1985.

Finland: Ministry of Finance, *Economic Survey 1985*, November 1985.

France: *Comptes Prévisionnels de la Nation pour 1985 et principales hypothèses économiques pour 1986*, October 1985 (Projet de loi de Finances pour 1986).

Germany, Fed. Rep. of: DIW, *Wochenbericht*, 1-2/1986.

Ireland: The Economic and Social Research Institute, *Quarterly Economic Commentary*, December 1985.

Italy: ISCO, *Rassegna Mensile-Congiuntura Italiana*, October 1985.

Netherlands: Central Planning Bureau, *Press Release*, September 1985.

Norway: *Nasjonalbudsjettet 1986*, October 1986. (St. Meld. Nr.1 1985-1986) and Statistisk Sentralbyrå, *Økonomiske analyser*, Nr.1-1986 (Økonomisk Utsyn over året 1985).

Sweden: Ministry of Finance, *The Swedish Budget 1986- 87*, February 1986.

Switzerland: *La Vie Economique*, La Conjoncture Suisse en 1985 et les Perspectives pour 1986, January 1986.

United Kingdom: H.M. Treasury, *Autumn Statement 1985*, November 1985.

United States: *Economic Report of the President*, February 1986 and OECD *Economic Outlook*, December 1985.

2.4 COSTS, PRICES AND INCOMES

Cost pressures, especially those from material inputs, further weakened and the disinflation process continued with increasing momentum during 1985. Real wages improved without squeezing profits. These aspects are reviewed in the present section: subsection (i) summarizes developments in various price indicators; subsection (ii) describes cost pressures and profit shares. The relative importance of the various factors influencing the inflation rate is discussed in subsection (iii).

During 1985 price inflation continued to fall. In western Europe consumer prices rose by 5 per cent in 1985, the smallest increase for a decade and a half. Producer prices decelerated even faster: from 6 per cent in 1984 to about 4 per cent in 1985. The difference between inflation rates in western Europe and the United States narrowed considerably, partly because of the depreciation of the US dollar.

The growth of nominal hourly earnings in western Europe in 1985 was on average about the same as in 1984. However, there was much variation among countries and rates fell in most countries where they had been increasing relatively fast in 1983 and 1984. The growth of hourly earnings was also fairly stable in the United States although their growth rate was much lower than in most west European countries. Although, on average, increases in hourly earnings stopped falling in 1985 their rate of growth was modest in comparison with previous cyclical upswings.

Real hourly earnings improved everywhere. This improvement, accompanied by some deceleration in productivity growth was reflected in a slightly faster growth of unit labour costs: their strong and persistent downward trend of the last four years was checked in 1985, both in western Europe and North America. However, real product wages weakened further as the rate of growth of unit labour costs still rose less than final product prices and this, together with falling material input costs, helped to maintain profits.

Prospects for 1986 are for further declines in the rates of inflation: unemployment is expected to remain high and international commodity (especially oil) markets will remain weak. The depreciation of the US dollar will reinforce the decline of price inflation in western Europe, although working in the opposite direction in the United States.

(i) Strong disinflation in 1985

The *implicit price deflator of GDP* (table 2.4.1), the broadest measure of changes in domestic costs, rose 5.8 per cent in 1985 in western Europe, the smallest increase since 1970. It accelerated only in the United Kingdom and, to a much lesser extent and from a significantly lower rate, in the Federal Republic of Germany. In the United States the deflator rose considerably less than in western Europe (3.9 per cent).

Consumer prices in western Europe rose 5 per cent in 1985, the smallest increase since 1969. The rate accelerated only in the United Kingdom (from 5 to 6 per cent, partly due to an increase in mortgage rates)[57] and to a much lesser extent in Switzerland (table 2.4.2). The largest falls were in Austria, where the rate almost halved, and in Ireland and the Netherlands, where it was one third less than in 1984. The highest rates of inflation were in Italy (9 per cent) and Sweden (7.5 per cent).

TABLE 2.4.1

Changes in GDP deflator

(*Per cent*)

	1984	*1985*
France	7.3	5.8
Germany, Federal Republic of	1.9	2.2
Italy	11.4	8.4
United Kingdom	3.6	5.0
Weighted average of 4	7.6	6.0
Austria	4.8	2.8
Belgium	5.5	4.7
Denmark	5.6	5.0
Finland	8.9	6.0
Ireland	7.7	5.6
Netherlands	2.9	2.6
Norway	7.1	5.7
Sweden	8.0	7.0
Switzerland	2.9	2.5
Weighted average of 9	5.4	4.5
Weighted average of 13	7.2	5.8
Canada	2.7	3.5
United States	4.1	3.9

Source: National statistics.

In the United States inflation, which after 1979 had fallen much faster than in western Europe, rose slightly in 1984 (to 4.3 per cent) but fell again in 1985 (to 3.6 per cent) despite increased food and fuel costs in the last quarter. There was a further narrowing of the difference between the rates of inflation in western Europe and the United States.

Much of the deceleration in 1985 occurred in the second half of the year. The weakening of the US dollar *vis-à-vis* the European currencies, which started in February, in addition to depressed world commodity prices in US dollar terms, began to be reflected in consumer prices by mid-year. During the summer months, prices actually fell in a number of countries and in others were stable: this development was checked only during September and October, mainly by increases in public service tariffs and indirect taxes. During the third quarter there was a general, and in some countries very strong, price deceleration which continued until the end of the year. In North America the deceleration in the second half was more moderate as the weakening of the US dollar had started to influence the import prices of manufactures and to partly offset the weakening in primary commodity prices.

Producer prices decelerated strongly in 1985. In the United States they increased by less than 1 per cent for the year as a whole. In western Europe the increase of about 4 per cent was one third less than in 1984. The deceleration was strongest in the smaller countries and in the Federal Republic of Germany.

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[57] In the United Kingdom, in the second quarter of 1985, the index excluding mortgage rates increased by 4.6 per cent compared with 7 per cent when they are included.

Table 2.4.2

Annual and quarterly changes in consumer prices
(Percentage change over corresponding period of previous year)

	1983	1984	1985	1985 Q1	1985 Q2	1985 Q3	1985 Q4
France	9.6	7.4	5.8	6.4	6.5	5.7	4.8
Germany, Fed. Rep. of	3.3	2.4	2.2	2.3	2.5	2.2	1.8
Italy	14.7	10.8	9.2[N]	9.3	9.4	9.1	8.9[O]
United Kingdom	4.6	5.0	6.1	5.5	7.0	6.3	5.5
Total of 4							
Unweighted average	8.0	6.4	5.9[N]	5.9	6.3	5.8	5.2[N]
Weighted average	7.4	5.8	5.3[N]	5.4	5.7	5.2	4.6[N]
Austria	3.3	5.6	3.2	3.5	3.6	3.0	2.7
Belgium	7.7	6.3	4.9	5.4	5.3	4.8	4.1
Denmark	6.9	6.3	4.7	5.6	5.4	4.2	3.6
Finland	8.3	7.1	5.9	6.5	6.4	5.7	4.9
Ireland[a]	10.5	8.6	5.4	6.2	5.2	5.5	4.9
Netherlands	2.8	3.3	2.2	2.3	2.5	2.3	1.8
Norway	8.4	6.2	5.7	5.6	5.7	5.7	5.7
Sweden	9.0	8.0	7.4	8.0	8.0	7.1	6.4
Switzerland	3.0	3.0	3.4	3.8	3.6	3.2	3.1
Total of 9							
Unweighted average	6.6	6.0	4.8	5.2	5.1	4.6	4.1
Weighted average	5.9	5.5	4.5	4.9	4.8	4.3	3.8
Total of 13							
Unweighted average	7.1	6.2	4.9*	5.4	5.5	5.0	4.5[N]
Weighted average	7.0	5.8	5.1*	5.3	5.5	5.0	4.4[N]
Canada	5.8	4.4	4.0	3.7	4.0	4.0	4.2
United States	3.2	4.3	3.5	3.6	3.7	3.4	3.5

Source: National statistics. O = October; N = November.

[a] February, May, August, November and averages thereof.

The smaller increases in producer prices did not lead to a squeeze on profits because prices of raw material inputs rose even less. If commodity prices had not been so weak in 1985, a profits squeeze would have been inevitable, given the slower growth in productivity and producer prices, and the improvement in real hourly earnings.

(ii) Changes in cost pressures

Primary commodity prices (measured in US dollars), after reaching a peak in May 1984, fell at an accelerated rate in 1985. The HWWA index of US dollar market prices of *non-energy commodities* fell by 10.1 per cent in 1985 and was about 30 per cent below its record level in 1980 (chart 2.4.1). Non-energy commodity prices also fell in terms of ECUs in 1985 due to the depreciation of the US dollar against the European currencies, especially in the second and fourth quarters.[58]

These commodity price developments basically reflect ample supplies and weak demand during the recent recovery. Unlike previous recoveries, the current upturn has been dominated by the United States which is not as important as western Europe as an importer of primary products.[59] Weaker demand has been amplified by other factors such as high interest rates, which have restrained the pace of stockbuilding, and technological changes which have lowered the raw material content of output.[60] There has also been a shift of output towards the service industries which are relatively small consumers of raw materials. On the supply side bumper harvests and increased stock releases were additional factors depressing prices.

Energy prices continued to fall in 1985. The HWWA energy index fell by about 2 per cent for the year as a whole. At the end of the year energy prices (in US dollar terms) were almost 20 per cent below their peak in 1981. In ECU terms, however, the index at the end of the year was still more than 60 per cent higher than in 1980. Despite the three-year recovery in activity in the market economies, the demand for crude oil[61] has remained weak. This is partly the result of long-run shifts in the pattern of demand away from oil- and energy-intensive activities accompanied by energy conservation and substitution effects which have been increasing since the end of the 1970s.[62]

The rapid disinflation during the course of 1985 is shown by the monthly changes in *intermediate goods prices* in western Europe (unweighted average of 13 countries) and the United States (chart 2.4.2). These prices are in national currencies and the coverage of goods is wider than that of the primary commodities index discussed above. Input price increases decelerated strongly in the second and third quarters, and provisional data suggest that they in fact fell during the last quarter.

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[58] Between mid-1980 and the first quarter of 1985 the dollar exchange rate increased by 60 per cent. At the end of 1985, the effective exchange rate of the dollar was some 15 per cent below its February peak. (See section 2.6 for exchange rate developments.)

[59] According to the IMF, the rise in world industrial production weighted by commodity import shares was only 70 per cent of the previous recovery.

[60] For example, a more efficient use of raw materials has been accelerated by the miniaturization of products. Metal requirement per unit of GDP has fallen some 20-40 per cent since the beginning of 1970 (J. G. van Beeck, *World commodity prices*, report presented to the AIECE meeting, Brussels, October 1985).

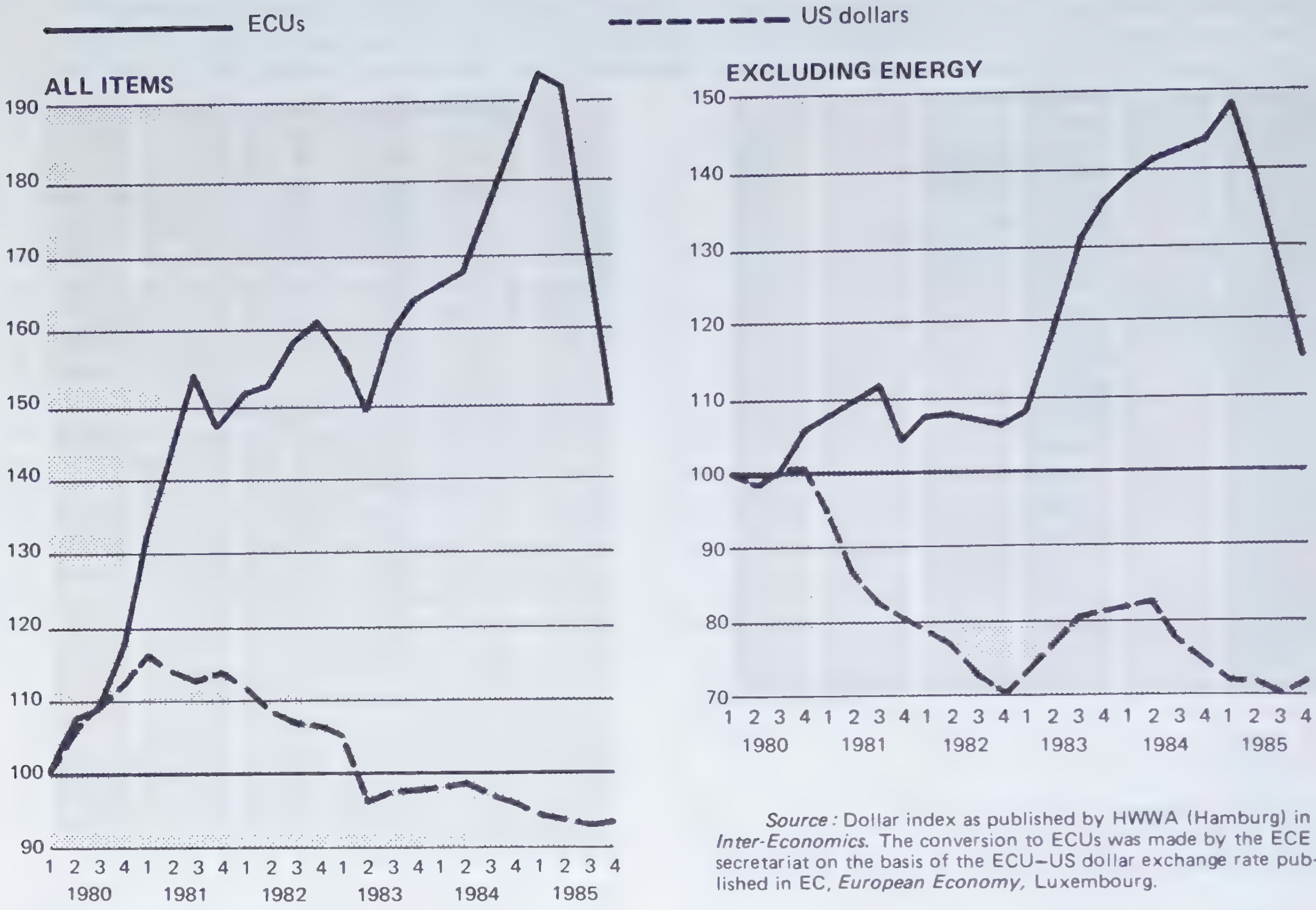
[61] The weight of crude oil in total HWWA energy index is 91.3 per cent.

[62] Total oil consumption in the industrial countries fell from 41.6 mbd in 1979 to 33.9 mbd in 1985, a fall of almost one fifth.

CHART 2.4.1

World market price of raw materials, in US dollars and ECUs

(1980 = 100)

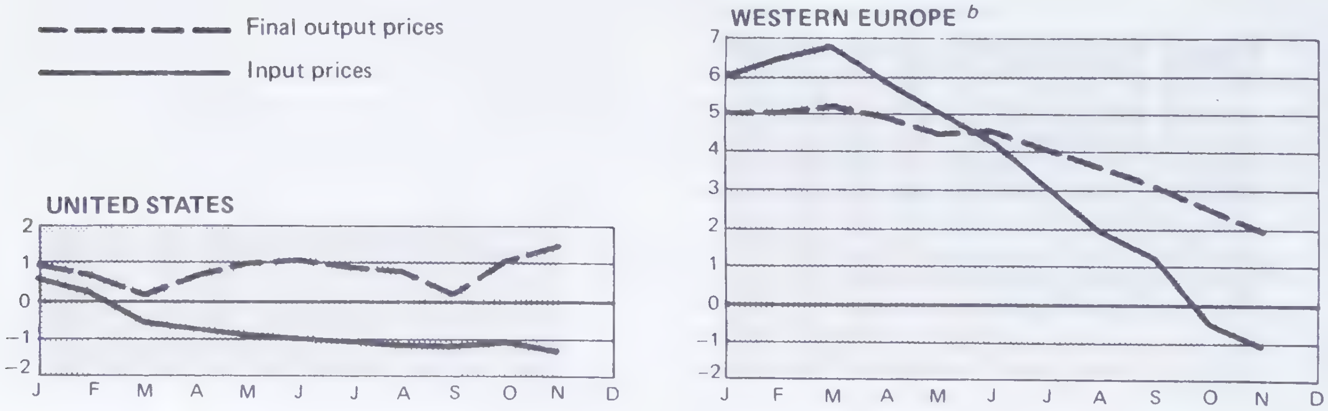


Source: Dollar index as published by HWWA (Hamburg) in *Inter-Economics.* The conversion to ECUs was made by the ECE secretariat on the basis of the ECU–US dollar exchange rate published in EC, *European Economy,* Luxembourg.

CHART 2.4.2

Changes in intermediate product prices and final output prices, 1985[a]

(Annual percentage change)



Source: National statistics.

[a] For definitions of indices, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, pp. 32-33; data for the fourth quarter are provisional.

[b] Unweighted average of 13 countries.

Input prices during the first half of the year increased at a higher rate than output prices, hence putting pressure on industrial profit margins. But in the second half this situation was sharply reversed. The improvement in margins, together with stronger demand, imply an increase in gross profits.

In the United States, input prices continued to fall even after the weakening of the dollar from February. Thus, even though producer prices increased at much lower rates than in western Europe, profit margins improved throughout the year.

The growth of *average hourly earnings* in west European manufacturing industry in 1985 was about 7.0 per cent, virtually the same as in 1984 (table 2.4.3). However, there are large differences between countries. Earnings growth stabilized in Italy and Denmark and accelerated only in the low inflation countries (the Federal Republic of Germany, Austria, the Netherlands and Switzerland) and the United Kingdom. Elsewhere the rate fell, in some cases quite strongly (Ireland and Sweden, for example). Despite de-indexation, hourly wage rates growth accelerated in Italy in the first half of 1985 after a marked slowdown in the second half of 1984 and, for the year as a whole, the increase was around 11.5 per cent, the highest in the region. The second largest increase was in the United Kingdom, where hourly earnings rose about 9.5 per cent compared with about 8.7 per cent in 1984. After falling sharply in 1983, the growth of nominal hourly earnings in the United States' manufacturing industry has remained at around 4 per cent in the last two years. [63]

The growth of *labour productivity* [64] (for the total economy) appears to have decelerated slightly in 1985 (table 2.4.4). The same development generally occurred also in manufacturing industry: current estimates point to lower growth rates in virtually all the market economies of the ECE region. In some countries the deceleration was more pronounced in industry than for the total economy. This general slowdown was not unexpected. In many countries output growth in the last few years was achieved with falling or stagnant employment levels. By the third year of the recovery, the possibilities of raising output without at the same time increasing employment were probably largely exhausted, particularly in sectors (investment goods, for example) faced with relatively buoyant demand.

In the manufacturing sector the decline in productivity growth was pronounced in the Netherlands and Sweden; in Denmark, where employment growth has been the strongest in the region, there was even an absolute fall in average productivity. In contrast, in France, Italy and—to a lesser degree—the United Kingdom, productivity growth in the manufacturing sector was still dominated by relatively large reductions in employment. In the United States productivity growth fell sharply in both the non-manufacturing and the manufacturing sectors. This deceleration mainly reflects the decline in output growth in 1985.

TABLE 2.4.3

Changes in average hourly earnings in manufacturing industry
(*Per cent*)

	1984	*1985*
France [a]	8.1	6.4
Germany, Federal Republic of [b]	2.3	4.1
Italy [c]	11.4	11.4
United Kingdom [d]	8.7	9.4
Weighted average of 4	7.0	7.4
Austria	5.0	6.1
Belgium [e]	4.8	3.6
Denmark [f]	4.8	4.7
Finland	9.2	7.8
Ireland [g]	10.6	7.3
Netherlands [c]	1.1	4.6
Norway [h]	8.6	8.0
Sweden [f]	9.6	6.9
Switzerland [i]	1.8	3.3
Weighted average of 9	5.4	5.4
Weighted average of 13	6.7	7.1
Canada	5.8	3.9
United States	4.0	3.7

Source: National statistics, and OECD, *Main Economic Indicators*, Paris.

[a] Wage rates. Quarterly data, referring to the beginning of January, April, July and October respectively. Annual figures are obtained by averaging the five observations from January of one year to January of the following year.

[b] Quarterly data, referring to January, April, July and October.

[c] Wage rates.

[d] Weekly earnings of all employees, Great Britain.

[e] Industry, adult male workers.

[f] Including mining.

[g] Quarterly data referring to March, June, September and December.

[h] Males only.

[i] Data refer to workers who had accidents during the relevant period.

TABLE 2.4.4

Annual changes in labour productivity: [a] total economy
(*Percentage change over previous year*)

	1983	*1984*	*1985 [b]*
France	1.2	2.3	2.0
Germany, Federal Republic of	2.7	2.5	2.0
Italy	−0.3	2.2	2.0
United Kingdom	4.4	1.3	3.0
Austria	2.9	1.9	2.5
Belgium	0.9	1.2	1.5
Denmark	1.7	1.2	—
Finland	3.2	2.9	2.5
Ireland	2.0	5.8	3.5
Netherlands	3.0	2.2	1.5
Norway	3.3	3.1	1.0
Sweden	3.1	2.5	1.5
Switzerland	2.0	2.3	3.0
Canada	1.9	2.3	1.0
United States	2.5	2.9	0.5

Source: National statistics and ECE secretariat estimates

[a] Real GDP per person employed. For the Netherlands, data for employment refers to man-years. Employment for the United Kingdom refers to June of the corresponding year and for Ireland to April of each year

[b] Preliminary figures rounded to the nearest 0.5 percentage point.

One consequence of lower productivity growth was that the deceleration in the growth of *unit labour costs* (for the total economy) over the last four years was checked in 1985, both in western Europe and in North America (table 2.4.5). The rate continued to fall only in Switzerland (from 2.1 per cent in 1984 to 0.5 per cent in 1985) and to a lesser extent in France and Finland. In Switzerland the deceleration was due to a relatively faster acceleration of labour productivity, while in France and Finland it was due to a slower growth in nominal earnings.

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[63] It should be noted, however, that indices of average *earnings* are usually constructed by dividing the current wage and salary bill by the current number of persons or hours worked, i.e., they are not base-weighted Laspeyres index numbers. This means that they may be misleading as indicators of changes in wage cost pressures: hourly earnings may rise because of reduced short-time working and more overtime, both normal features of a cyclical upswing, and without any rise in wage rates. See, ILO, *Bulletin of Labour Statistics*, Geneva, 1981-3.

[64] The changes in labour productivity in 1985 are still subject to wider margins of error: both the data on output and employment are preliminary and revisions may not necessarily be offsetting.

TABLE 2.4.5

Growth of unit labour costs [a] and real product wages [b] for the whole economy
(Percentage change over previous year)

	Unit labour costs			Real product wages		
	1983	1984	1985 [c]	1983	1984	1985
France	9.0	5.8	4.5	−0.4	−1.5	−1.3
Germany, Fed. Rep. of	0.9	0.6	1.5	−2.4	−1.3	−0.7
Italy	15.7	8.8	8.5	1.5	−2.6	0.1
United Kingdom	4.4	3.0	5.0	−0.6	−0.6	—
Total of 4						
Unweighted average	7.5	4.6	5.0	−0.5	−1.5	−0.5
Weighted average	6.3	3.9	4.0	−0.8	−1.4	−0.6
Austria	2.2	2.9	3.5	−1.6	−1.9	−0.7
Belgium	5.1	5.3	..	−1.2	−0.2	..
Denmark	6.8	4.3	5.0	−1.3	−1.3	—
Finland	7.2	8.2	7.5	−1.5	−0.7	1.5
Ireland	7.7	3.9	5.0	−3.7	−3.8	−0.6
Netherlands	—	−1.7	—	−1.5	−4.8	−2.6
Norway	4.0	4.3	5.5	−2.5	−2.8	−0.2
Sweden	5.3	5.4	7.5	−4.3	−2.6	0.5
Switzerland	3.9	2.1	0.5	0.6	-0.8	−2.0
Total of 9						
Unweighted average	4.7	3.9	4.5*	−1.9	−2.1	−0.5*
Weighted average	3.9	3.2	3.0*	−1.8	−2.2	−1.0*
Total of 13						
Unweighted average	5.6	4.1	4.5*	−1.5	−1.9	−0.5*
Weighted average	5.7	3.7	5.0*	−1.0	−1.6	−0.7*
Canada	2.7	1.1	2.5	−2.8	−3.0	−1.4
United States	2.6	2.2	4.5	-1.6	−1.4	0.5

Source: National statistics.

[a] Compensation of employees per unit of real GDP or GNP.

[b] Growth of unit labour costs for the whole economy deflated by the GDP deflator.

[c] Preliminary figures and ECE secretariat estimates rounded to the nearest 0.5 percentage point.

In the United States, unit labour costs increased significantly less than in western Europe during the recent upturn, thanks to a much weaker growth of average earnings. In 1985, however, due to the slowdown in productivity growth, unit labour costs rose more than the west European average. Nethertheless, the increase in unit labour costs in the United States between 1977 and 1985 was still less than in the majority of west European countries (chart 2.4.3).[65] However, when unit labour costs are converted into US dollars, thus providing a rough indicator of competitiveness, the picture changes considerably (right-hand side of the chart).[66] It is only against the United Kingdom that the change in United States unit labour costs remains relatively favourable. The ranking of west European countries, according to the growth of unit labour costs changes considerably according to whether they are expressed in national currencies or dollars. The extreme case is Sweden where the increase of unit labour costs measured in national currency was among the highest, but expressed in US dollars was one of the smallest.

On average the *real product wage*, unit labour costs deflated by the GDP deflator, fell further in 1985 in western Europe (table 2.4.5). However, the fall was less than in 1984 and was not a general phenomenon. Real product wages increased in Finland (strongly) and Sweden; and stabilized in Italy, the United Kingdom and Denmark. In the United States they increased in 1985 after falling in the two previous years. Thus, the remarkable improvement of profit margins during the 1983-1984 upturn slowed down in 1985.

Gross profit shares in the west European manufacturing sector in 1985 did not continue their strong rise of 1983-1984, but neither did they deteriorate: they were supported by the weakness of material input prices and the strengthening of consumer demand. Preliminary data suggest that gross profit shares (before-tax) stabilized around their 1984 levels. At the end of 1985 (table 2.4.6) it was only in the Federal Republic of Germany, the Netherlands and the United Kingdom that they were still below their 1970 levels. However, in all countries profit shares were higher than in 1980.

In the United States, in contrast, profit shares continued to increase in 1985 with the same momentum as in 1984. Over the last three years the improvement in profit shares has been much greater in the United States than in the other market economies.

(iii) The role of different influences on the rate of inflation

The previous subsection discussed recent changes in some of the elements that influence the overall rate of inflation as measured, for example, by the GDP deflator. The relative importance of these and other factors can be examined by estimating a relatively standard price equation.[67] This was done for

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[65] The choice of 1977 as the base year was dictated by the readily available data base.

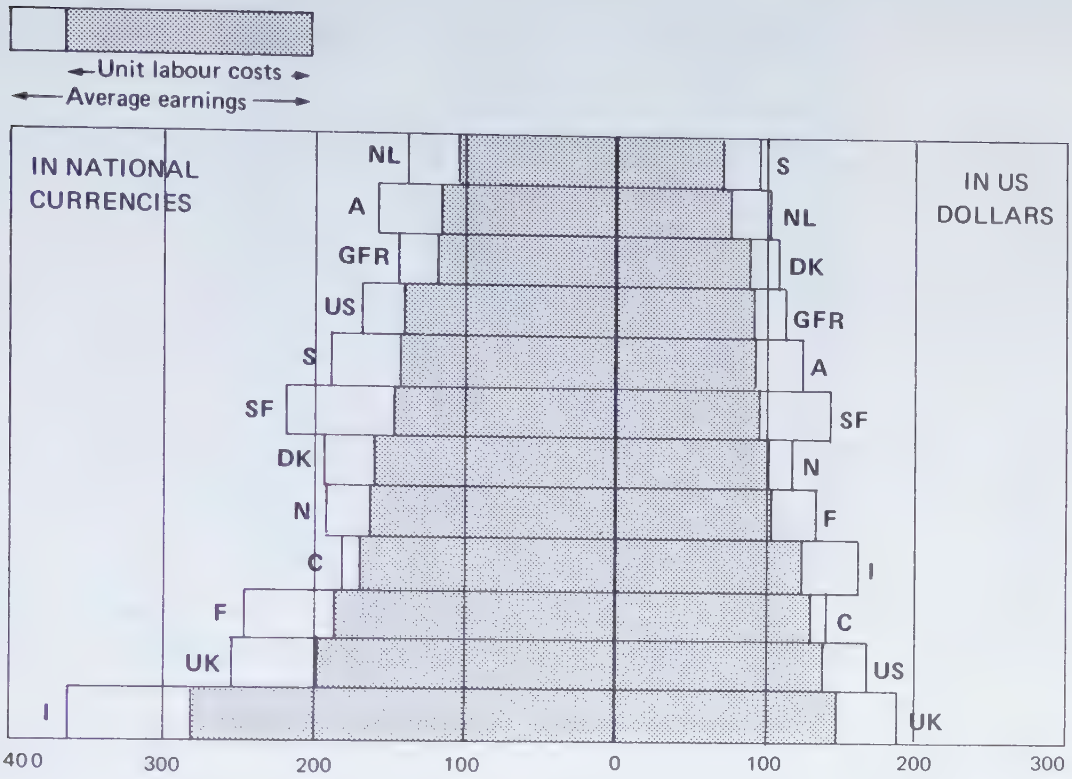
[66] Changes in each country's unit labour costs can also be measured in relation to a trade-weighted average of the other countries. However, a study made by the US Department of Labor, covering the 1973-1984 period ("International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1985", *News*, Washington, D.C., June 1985), shows that the above ranking of countries remains virtually unchanged.

[67] See Appendix for specification.

CHART 2.4.3

Average earnings and unit labour costs in 1985

(1977 = 100)



Source : As for table 2.4.2; IMF, *International Financial Statistics,* Washington, D.C., various issues.

TABLE 2.4.6

Gross profit shares in manufacturing
(*Indices, 1970 = 100*)

	1980	*1981*	*1982*	*1983*	*1984*	*1985**
Denmark	99.6	98.5	100.4	123.9	125.8	123
Finland [a]	98.3	90.2	88.4	102.1	111.2	102
Germany, Fed. Rep. of	80.0	77.0	80.0	86.0	88.8	88
Ireland [b]	106.3	101.9	103.3	97.6	107.4	110
Netherlands	45.1	26.3	47.0	48.1	71.8	61
Norway [c]	100.0	79.5	72.7	89.3	104.9	111
Sweden	78.8	72.7	86.0	110.2	118.2	114
United Kingdom	71.4	73.9	83.2	90.4	96.8	94
United States	95.2	99.1	96.5	141.5	147.6	155

Sources: National statistics; for 1985, ECE secretariat estimates based on the growth rates of output, employment and average earnings.

[a] Net share.

[b] Industry.

[c] 1980 = 100.

each of the countries listed in the Appendix table: the coefficients were estimated on the basis of annual data for the period 1961-1983. Chart 2.4.4 shows the results of using the estimated equations to forecast inflation rates in 1984—the performance of the model is good and suggests that despite the various shocks of the 1970s the underlying relationships between inflation and the selected determinants have not changed very much. However, for most countries the forecast inflation rate is higher than the actual rate in 1984: this could reflect changes, for example, in the response of wages to exceptionally high levels of unemployment, changes in the amounts of material inputs used per unit of output, and so on.[68]

The results, shown in the appendix table, suggest that a large part of current rates of inflation is due to the underlying inertia of price changes in the economy as a whole. On average more

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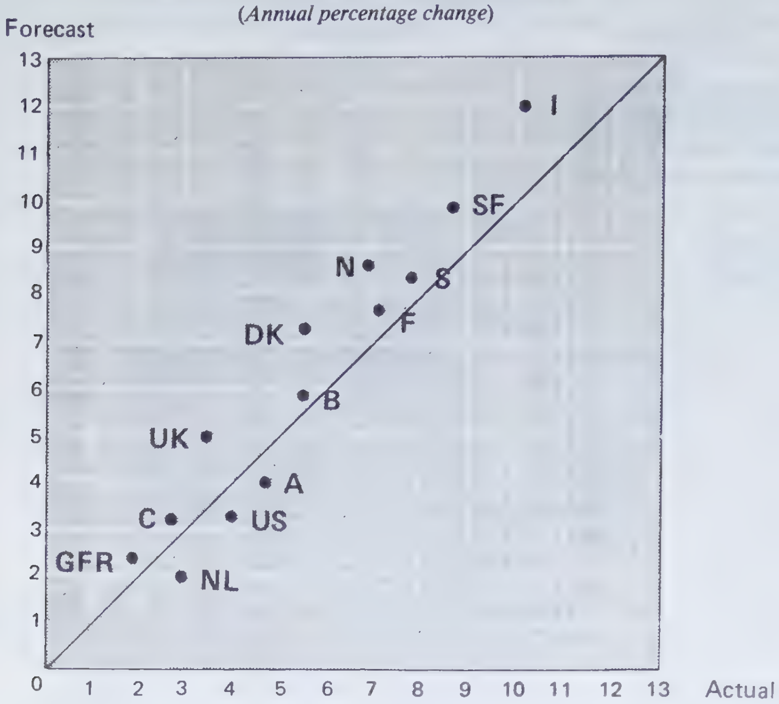
[68] Another possible explanation is that some of the explanatory variables, because of data limitations, refer only to manufacturing industry. It is not feasible to separate this possible data error from the difference between the forecast and actual values.

CHART 2.4.4

Forecast versus actual inflation rates[a] in 1984

(Annual percentage change)



Source: National statistics and secretariat estimates (see technical annex).

[a] Inflation rate is measured by the increase in the implicit price deflator of GDP.

than half of the current year's inflation rate is already embodied in the previous year's rate. This may be loosely interpreted as the effect of expectations on the process of price formation and of the possible lags—which are not explicitly considered here—with which cost increases work through to final prices. This view is consistent with the argument that expectations tend to be sticky (see above section 2.2(i)) and suggests that the momentum towards lower rates of inflation can be expected to continue during 1986, even before making allowance for the recent large fall in oil prices.

The role of the other factors in explaining changes in the inflation rate is more limited, although generally still important, and varies more among the individual countries. This is the case for changes in labour costs: on average a one percentage point increase in earnings tends to raise the price level by some 0.3 percentage points. However, in most countries the impact of higher earnings is potentially reduced by a half (Italy, the United Kingdom) or more through the effect of increases in productivity. (The net effect is the difference between the absolute values of the relevant coefficients.) The effects of a rise in raw material prices varies a lot: roughly, a 10 per cent rise in these prices adds about 0.1 percentage points to the overall inflation rate; the effect is somewhat larger in Norway, Denmark and Canada, but does not appear to be significant in the Federal Republic of Germany or the Netherlands. It is striking that changes in the capacity utilization rate—which is used here to indicate the overall cyclical position and cost pressures in general—do not appear to be statistically significant in about half of the countries analysed. It is most significant in the Federal Republic of Germany and Italy, a one percentage point rise in the rate of capacity utilization adding about 0.2 percentage points to the rate of inflation.

Turning to likely developments in 1986, the deceleration of rates of inflation in 1985 is foreseen to continue to influence price developments via expectations and adjustment lags. Price expectations of both consumers and producers have now been falling steadily (see section 2.2(i)) and these are likely to maintain a downward pressure on prices for some time to come.

The outlook for wages in 1986 is for the continuation, in general, of moderate rates of growth. Before the recent improvement in the outlook for output growth, productivity increases were beginning to slow down—a normal feature of the current stage of the recovery but one which would imply some rise in unit labour costs. Non-oil commodity prices are likely to stabilize in 1986 and even rise in dollar terms, but for most west European countries is likely to be offset by the appreciation of their currencies against the dollar. Oil prices fell considerably in early 1986 and, although there is uncertainty as to their future course, it seems unlikely that they will recover to their pre-January levels during 1986.

Given the weaknesses of commodity markets and, possibly, a still weaker dollar, material input prices are likely to fall, leaving room for disinflation to continue without squeezing profits. Thus both real wages and profits could continue to rise in 1986.

APPENDIX

The determination of the price level was analysed by using the following linear model:

$$(1)\quad p_t = a_o + a_1 p_{t-1} + a_2 z_t + a_3 s_t + a_4 w_t + a_5 c_t + a_6 T + u_t,$$

where the dependent variable, p_t is the implicit GDP-deflator and its lagged value is denoted by p_{t-1}; z indicates labour productivity, s raw material prices, w hourly earnings, c a capacity variable, T a time trend, and u a stochastic error term. (The model is in essence similar to that of M. I. Nadiri and V. Gupta: "Price and Wage Behavior in the U.S. Aggregate Economy and in Manufacturing Industries", in J. Popkin, (ed.), *Analysis of Inflation 1965-1974*, National Bureau of Economic Research, New York, 1977, pp. 195-235.) The equation was estimated from annual time series data, the sample period being 1961-1983. The same model was used to make forecasts for 1984 and 1985, using dynamic simulation. The OLS estimates for the 13 sample countries are tabulated below. The capacity variable is in most cases the deviation from linear (and in some cases also squared) time trends. The published capacity utilization rate is used for Belgium, Canada and France. The z and w variables refer to manufacturing industry only. Some of the estimated coefficients had the wrong signs, and were subsequently constrained to zero: this made little difference to the results as in all these cases the respective t-ratios were very low. The same is true of the time trend variable, which was generally excluded from the final specification.

Appendix table

The determination of the price level, 1961-1983: regression results

	$p_{(t-1)}$	t_p	z	t_z	s	t_s	w	t_w	c	t_c	T	t_T	*SEE*	*Durbin's h-statistic*
Austria	0.675	(8.72)	−0.037	(0.94)	0.083	(2.81)	0.160	(3.86)	0.181	(2.95)	. .	. .	0.0092	0.587
Belgium	0.496	(7.92)	−0.270	(2.00)	0.110	(2.35)	0.282	(3.56)	0.055	(0.31)	0.012	(2.78)	0.0087	2.026
Denmark	0.398	(5.56)	−0.151	(1.36)	0.153	(4.63)	0.217	(5.02)	. .	. .	0.022	(3.44)	0.0068	2.431
Finland	0.598	(10.75)	. .	. .	0.176	(3.83)	0.188	(3.33)	0.015	(2.63)	. .	. .	0.0173	0.208
France	0.588	(9.31)	−0.372	(2.40)	. .	. .	0.305	(6.37)	0.037	(0.80)	0.016	(1.17)	0.0087	1.818
Germany, Fed. Rep. of . . .	0.627	(7.12)	−0.248	(3.95)	0.012	(0.35)	0.350	(6.92)	0.224	(3.94)	. .	. .	0.0078	0.542
Italy	0.590	(21.83)	−0.140	(3.83)	0.075	(4.12)	0.285	(9.95)	0.210	(3.28)	. .	. .	0.0102	0.677
Netherlands	0.567	(7.37)	−0.394	(1.74)	0.030	(0.83)	0.338	(6.25)	0.333	(1.44)	0.017	(1.63)	0.0109	0.588
Norway	0.382	(3.52)	−0.265	(0.92)	0.203	(3.21)	. .	. .	0.396	(1.40)	0.036	(2.74)	0.0159	0.296
Sweden	0.696	(5.66)	−0.131	(0.97)	0.108	(2.59)	0.213	(4.35)	0.086	(0.47)	. .	. .	0.0121	0.792
United Kingdom .	0.342	(6.00)	−0.527	(7.99)	. .	. .	0.687	(15.58)	0.146	(1.98)	. .	. .	0.0120	0.992
Canada	0.444	(7.03)	−0.111	(1.79)	0.148	(5.16)	0.363	(6.85)	0.100	(1.22)	. .	. .	0.0105	1.774
United States	0.576	(9.85)	−0.233	(5.20)	0.070	(3.73)	0.214	(2.29)	. .	. .	0.012	(3.94)	0.0059	0.379

Note: Numbers in parentheses are t-ratios, SEE is the standard error of the regression, and h is Durbin's test statistic for first-order autocorrelation. All equations include a constant term which is not displayed; the R^2s are not displayed either because all of them exceed the value of 0.999. In the case of Finland, the D-W statistic is reported.

2.5 EMPLOYMENT AND UNEMPLOYMENT

Although employment in the market economies expanded for the second year in succession, the recovery in the labour markets remains weak. The slowdown of demand in the United States led to more moderate job increases in North America, while in western Europe employment increased but by less than the rise in the labour force. For most of 1985, unemployment, after a marked fall, stabilized in the United States, but continued to rise in western Europe. Labour supply developments are discussed in subsection (i). Several aspects of employment are reviewed in subsection (ii), including the high growth rates of female employment, the shift towards the service sector and the rapid expansion of part-time employment.

Labour market trends in western Europe and North America in 1985 were characterized by a mixture of positive and negative features. On the positive side, the recovery of employment, which had started hesitantly in 1983 and gained considerable momentum in 1984, continued in 1985. Total employment in North America and western Europe (15 countries excluding southern Europe) rose by somewhat more than 3 million between mid-1984 and mid-1985, a growth of about 1.3 per cent. On the other hand, this increase was much smaller than in 1984 when the number of new jobs was close to 5 million, a rise of more than 2 per cent. Also, the growth of employment in 1984/85 was more than offset by further increases in the labour force. As a result, unemployment increased further, reaching 22.4 million by mid-1985. Thus, the decline in unemployment, which fell by more than 1.6 million from mid-1983 to mid-1984, came to an abrupt end.

Unemployment rates in this section have been calculated on the basis of the total labour force, comprising the employed and unemployed. The rates obtained may be lower than those shown elsewhere for two reasons. In the first place, they will be lower than those based on narrower definitions of the labour force (for example, the civilian labour force or the working population excluding the self-employed). In the second place, to the extent that the estimate of the number of persons unemployed is based on registration data, it may exclude unemployed persons not registered with the employment services. The importance of these factors can be illustrated with data for the United Kingdom. In table 2.5.2 below, the estimated unemployment rate in the United Kingdom in 1984 is 11.2 per cent; but if the self-employed are excluded from the calculation (i.e., the number unemployed are expressed as a percentage of the total of employed and unemployed *employees*, which is the practice in national statistics) the unemployment rate is raised to 12.6 per cent.[69] If, to take the second case, the number of persons not registered or entitled to unemployment benefits is added to the number of registered unemployed, then the unemployment rate in the United Kingdom is raised from 11.2 to 13 per cent in 1984.

Labour market developments have been markedly different in North America and western Europe: some of the more important differences are summarized in table 2.5.1.

The stagnation in the number of the unemployed in North America in 1985 reflects essentially the slowdown in job growth: lower rates of economic growth and of job creation, typical of the later stages of an economic recovery, led to a reduction in the rate of growth of employment from close to 4 per cent in 1983/84 to just over 2 per cent in 1985. Although labour force growth has also decelerated, the fall in unemployment was very moderate compared with the sharp drop in 1983/84. In western Europe employment in 1984/85 increased more than the year before, but the increase (0.6 per cent) was still well below that of the labour force (0.9 per cent). As a result, unemployment rates hardly changed. In North America the rate fell slightly, but remained around 7.4 per cent, whereas in western Europe it increased to about 9.7 per cent.

Despite the slowdown of employment growth in the United States, labour market conditions in North America continued to improve in comparison with western Europe (table 2.5.2). Unemployment in the United States fell to 7 per cent, the same rate as in 1980; with some acceleration in the rate of employment growth there was also a decline in the unemployment rate in Canada. In western Europe, the labour force continued to grow faster than employment, although by a smaller margin than in 1983/84, and this resulted in a further rise in the unemployment rate. However, this deterioration was concentrated in the four larger countries. In all of them, except the Federal Republic of Germany, the relatively faster labour force growth caused unemployment rates to rise. Developments were somewhat more favourable in the smaller countries. Although the unemployment rate appears to have risen marginally in Austria and, more significantly, in Ireland, in most of the remaining countries a near balance between labour force and employment growth has meant that unemployment rates have been virtually stable. Only in Denmark has there been a substantially more rapid expansion of employment than of the labour force in the last two years and in 1985 this led to a drop in the unemployment rate of more than one percentage point. Towards the end of 1985 and in early 1986 there were signs of improvement in the employment situation in a number of countries. Unemployment fell in the United States and in a number of west European countries in December and January.

(i) Recent developments in labour supply

In general, changes in the population of working age are a significant factor in the growth of the labour supply. A decline in labour force growth resulting, say, from smaller increases in the population of working age, could have reduced the scale of unemployment during the recession. As noted in last year's *Survey*, this may in fact have happened in North America where the growth of the population of working age has slowed down since the late 1970s. But in western Europe, the growth of the working age population accelerated strongly in 1979/80 and did not start to decline until 1982/83, thus potentially aggravating the employment problem in the intervening years. Neverthe-

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[69] See Department of Employment, *Employment Gazette*, HMSO: London, January 1986, table 2.1, page 520.

TABLE 2.5.1

Labour market changes in western Europe and North America, 1979-1985
(Average annual changes in thousands)

	Western Europe			North America		
Period [a]	*Labour force*	*Employment*	*Unemployment*	*Labour force*	*Employment*	*Unemployment*
1979-1983	740	−640	1 380	1 910	610	1 300
1983-1984	1 060	490	570	2 210	4 400	−2 230
1984-1985	1 140	690	340	2 090	2 440	−350

Source: National data and ECE secretariat estimates.

[a] Mid-year to mid-year.

TABLE 2.5.2

Growth of labour force and employment, 1983-1985, and unemployment rates, 1984 and 1985, by countries
(Per cent)

	1983-1984		1984-1985		Unemployment rate	
	Labour force	*Employment*	*Labour force*	*Employment*	*1984*	*1985*
Country	*(Annual percentage change)* [a]				*(Annual average)*	
France	−0.6	−1.0	−0.3	−0.7	9.7	10.1
Germany, Fed. Rep. of ..	0.1	0.1	0.8	0.8	8.2	8.2
Italy	1.0	0.5	1.2	0.4	10.2	11.0
United Kingdom	1.6	1.7	1.5	1.1	11.2	11.6
Total 4 countries	0.8	0.3	0.8	0.4	9.8	10.2
Austria................	0.2	0.1	0.5	0.3	3.9	4.2
Belgium	0.3	0.1	0.4	0.2	13.1	13.1
Denmark	1.9	2.3	1.0	2.3	9.7	8.5
Finland	1.0	1.0	0.9	0.8	6.2	6.3
Ireland	0.4	−1.3	0.7	−0.8	15.5	16.8
Netherlands...........	2.0	2.0	2.0	2.4	13.7	13.4
Norway	0.3	0.7	1.6	2.1	3.0	2.5
Sweden	0.4	0.7	0.8	1.1	3.1	2.8
Switzerland	—	−0.2	0.6	0.7	1.1	1.0
Total 9 countries	0.8	0.8	1.0	1.2	8.0	7.8
Western Europe	0.8	0.4	0.9	0.6	9.4	9.7
Canada	1.8	2.5	1.9	2.8	11.2	10.5
United States...........	1.8	4.0	1.7	2.0	7.4	7.0
North America	1.8	3.9	1.6	2.1	7.8	7.4
Total	1.3	1.2	1.2	1.3	8.6	8.5

Source: National data and secretariat estimates.

[a] Mid-year to mid-year.

less, while in the long run demographic developments may be important for the labour force supply, the experience of recent years suggests that in the short term this is not necessarily the case: particularly during recessions and recoveries the relationship between the two may be non-existent.

During the worst years of the recession, for instance, the combined labour force of western Europe and North America (15 countries) increased at a much slower rate than the working age population (table 2.5.3). The most striking change in this respect is in western Europe, and particularly in the four larger European economies, where the growth of the working age population rose considerably after 1979, while the growth of the labour force fell. [70]

The relationship between changes in the working age population and the labour force, however, has been reversed during the recovery. Between 1984 and 1985 the annual growth of the working age population slowed down considerably in western Europe and continued to decline in North America. Although labour force growth weakened somewhat in North America, its absolute increase was nearly twice as much as that of the working age population. In western Europe the change in the labour force was virtually the same in both years. In the nine smaller west European countries, the absolute increase of the labour force rose steeply between 1984 and 1985, while that of the working age population remained unchanged. In the four larger European countries labour force growth in 1984/85 exceeded the growth of the working age population for the first time since 1975.

These changes suggest that the "discouraged worker" effect, (i.e., the withdrawal of persons from the labour force because they cannot find a job), may have been more significant in the

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[70] However, it should be noted that the rapid growth of the population of working age in western Europe between 1980 and 1985 was largely due to an exceptionally large increase in the 55- to 64-year-old age group which, for a number of years, has been characterized by rapidly falling male participation rates. See section 2.11 below.

TABLE 2.5.3

Changes in working age population and labour force in western Europe and North America
(Average annual change in thousands)

	Western Europe									
	Total		*4 large countries*		*9 small countries*		*North America*		*15 countries*	
Period [a]	*Working age population*	*Labour force*	*Working age population*	*Labour force*	*Working age population*	*Labour force*	*Working age population*	*Labour force*	*Working age population*	*Labour force*
1975-1979	1 130	970	840	700	290	270	2 690	3 090	3 820	4 060
1979-1980	1 910	1 060	1 550	680	360	380	2 540	2 330	4 450	3 390
1980-1981	1 940	860	1 580	510	360	350	2 010	2 100	3 950	2 960
1981-1982	1 990	670	1 620	400	370	270	1 790	1 630	3 780	2 300
1982-1983	1 700	360	1 310	150	390	210	1 590	1 590	3 290	1 950
1983-1984	1 540	1 060	1 220	820	320	240	1 660	2 210	3 200	3 270
1984-1985	1 070	1 140	750	840	320	300	1 130	2 090	2 200	3 230

Source: National data and ECE secretariat estimates.

[a] Mid-year to mid-year.

last recession than the "added worker" effect (i.e., the entry into the labour market of those seeking work). This would also explain the upturn in labour supply since the beginning of the recovery. However, other factors, which have recently gained importance, appear to have contributed to these variations in labour force growth. These factors include a broad range of labour market measures and programmes, as well as changes in the administrative treatment and definition of employment and unemployment.

There is growing evidence that the special treatment of certain groups, especially women, the young, and older workers, may have affected the data on unemployment and the labour force. Changes in the criteria for awarding unemployment benefits and in the administrative arrangements for recording the numbers unemployed, for example, may have a significant effect on the unemployment statistics and thus on the measurement of labour force size and growth. [71]

Of more importance, especially during recessions, are programmes and measures which delay the labour market entry of young workers or hasten the exit of older ones. Increases in the statutory school-leaving age and the expansion of higher educational facilities have the effect of postponing the age at which younger persons join the labour force. Other schemes, such as labour market training, may further raise the age at which the job search begins. In addition, virtually all countries have increasingly resorted to early retirement and disability schemes as a means of relieving pressures in the labour market. [72] It has been argued that by reducing unemployment and the labour force with these methods any subsequent upturn in employment has a comparatively small effect on unemployment, and that the labour supply will increase disproportionately as unregistered workers re-enter the labour market. [73] These factors may explain the acceleration in labour supply in the last few years, even when the underlying demographic trends would suggest a slowdown.

One consequence of these developments is that the activity rate, i.e., the proportion of the working age population in the labour force, resumed its long-run, upward trend after being interrupted in 1982 and 1983. In fact, the activity rate in the 15 countries combined rose from just below 69 per cent in 1984 to nearly 70.5 per cent in 1985. Even the persistent decline in the participation rates of males came to a halt in 1985. In addition, the rise in the activity rates of women, which had slowed down between 1980 and 1982, started to gain momentum after 1982.

Growing feminization has become a major characteristic of the labour force in the market economies. According to a recent secretariat study, [74] between 1975 and 1984 the growth of the female labour force in all 15 countries was more rapid than that of the male labour force and, except in Finland and Ireland, women accounted for more than three fifths of the increase in the total labour force growth. By 1984 women represented between 40 and 47 per cent of the labour force in Austria, the Nordic countries, the United Kingdom, Canada and the United States and between 35 and 40 per cent in all the remaining countries except Ireland (29 per cent).

It is also generally recognized that the response of male and female workers to cyclical variations in labour demand differ considerably. The following data on the relative shares of men and women in labour force growth during and after the recent recession seem to confirm this (table 2.5.4). On the whole, the female labour force seems to have expanded more rapidly than the male labour force during the recession, but during the recovery this tendency appears to have been reversed, except in North America in 1984/85.

TABLE 2.5.4

Share of women in total labour force change
(Per cent)

	Western Europe				
Period [a]	*Total*	*4 large*	*9 small*	*North America*	*15 countries*
1975-1979	88	89	85	61	68
1979-1983	90	95	83	65	72
1983-1984	90	92	83	61	70
1984-1985	80	80	80	68	72

[a] Mid-year to mid-year

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[71] See, for instance, on the effect of eligibility on the number of benefit claimants in the United Kingdom, "Unemployment estimates from the Labour Force Survey compared with the monthly claimant count", *Employment Gazette*, HMSO, London, October 1985, pp. 393-396. The impact of changing criteria for registering the unemployed is discussed in Shirley Williams, *A Job to Live. The Impact of Tomorrow's Technology on Work and Society*, 1985, pp. 26-27.

[72] For a review of such policies and their impact on labour force participation in the older age groups and on overall labour supply, see section 2.11 "Early retirement schemes and unemployment".

[73] See Williams, *op. cit.*, p. 27, which also cites an estimate that three or more jobs have to be created to take two people off the unemployment register.

[74] United Nations Economic Commission for Europe, *The Economic Role of Women in the ECE Region. Developments 1975/85*, New York, 1985, pp. 11-15.

This continuing upsurge in the labour force participation of women, and especially of married women, has been associated with a comparatively more rapid growth of the labour force in the central age groups. Although detailed figures are not available, ECE secretariat estimates indicate that the activity rate in the 25- to 54-year-old age group may have risen between 1980 and 1985 by more than 1.5 percentage points in western Europe and by more than 4 points in North America. In this age group, rapidly increasing female participation has more than offset the moderate decline in male activity rates. As regards other age groups, the more favourable labour market developments in North America, together with the existence of a long-term trend of rising part-time work for younger persons, may have led to a continuing rise in participation rates in the lower age groups of 15 to 19 (with an estimated increase of 4 percentage points between 1980 and 1985) and 20 to 24 years (with a rise of 3 percentage points) in the United States and Canada. In contrast, high unemployment, together with a large array of educational and training schemes, seem to have had a depressing effect on labour force participation, especially in the 15- to 19-year-old age group in western Europe (where participation rates are estimated to have fallen by 4 percentage points over the same period).

(ii) Changes in employment

The lack of a substantial improvement in employment has been one of the most disappointing features of the recent recovery. Total employment in the 15 market economies increased by barely 4 per cent between its low-point during the recession and mid-1985. Moreover, most of this gain was concentrated in North America where, since the beginning of the recovery, the number of jobs has risen by more than 8 million, or close to 7.5 per cent.[75] In western Europe, where the recovery started later as far as employment is concerned (1983 was the turning point in most countries), the number of jobs created since the trough of the recession was less than 1.5 million, an increase of only 1.3 per cent.

A feature of the slow employment growth in western Europe, and one which had already emerged in the 1970s, is the virtual stagnation in the employment of men. Since the low point of the recession, male employment in western Europe has risen by barely two tenths of one per cent, compared with a 2.3 per cent rise in the number of employed women, who accounted for nine tenths of the additional 1.5 million jobs. The difference between the growth of employment of men and women was less marked in North America but, nevertheless, women occupied close to three fifths of the new jobs created since 1982 and the proportionate increase in the number of employed women was one and a half times larger than that of men (more than 9 per cent against 6 per cent).

These relatively large employment gains for women continue a long established trend. According to available estimates total employment in the 15 countries increased by 16 per cent between 1970 and 1985, from about 208 to 241 million: four fifths of the additional jobs were filled by women. In relative terms, the number of employed women was more than 36 per cent higher in 1985 than in 1970, whereas for men the increase was less than 5 per cent. Although developments differ in individual countries and groups of countries—in the case of North America, for instance, employment in general, as well as for each of the sexes, expanded much more rapidly than in western Europe—the trend towards the feminization of employment is a general phenomenon. The changes in individual countries are shown in chart 2.5.1.

The relative growth of women's employment was even more pronounced during the recent recession. Total employment in 1983 was virtually the same as in 1979, but this was due to a net loss of more than 4 million jobs for men and a corresponding gain of 4 million for women. However, since 1983, the increase in employment has benefited women as well as men, the latter accounting for more than 40 per cent of the additional jobs created since 1983. This reflects in part the different impact of the recession and the recovery on women's and men's jobs. Nevertheless, taking the period since 1979 as a whole, the number of employed men fell by some 700,000, while women's employment rose by 8.5 million. The divergent pattern of male/female job opportunities are especially pronounced in western Europe (table 2.5.5).

Another feature of changes in employment is the long-term shift from industry to services. According to data in a previous *Survey*,[76] the share of industrial employment between 1960 and 1970 increased in five out of the 11 countries for which data were available, but between 1970 and 1980 it declined in all of them. In a number of them (Belgium, the Netherlands, Sweden, Switzerland and the United Kingdom) industry's share fell by more than 5 percentage points. In contrast, employment in services rose and by 1980 accounted for more than half of total employment in all 11 countries and in some (Belgium, Canada and the United States) more than 60 per cent.

The loss of industrial jobs has continued. In all 10 countries for which recent data are available, employment in industry has continued to decline since 1979, although in some cases there was a slight upturn after 1983. In contrast, service employment rose continuously, although generally at a slower pace than before, in all countries except Italy and the United Kingdom. Table 2.5.6 and chart 2.5.2 summarize the main developments in this regard in the 10 countries for which data are available.

Not only did the loss of industrial jobs accelerate during the recession (Finland was the only country where there was not an absolute decline), but there are no clear signs of a significant recovery after 1983, except in Denmark. In Norway, Sweden and Switzerland, industrial employment increased a little or remained virtually unchanged, but elsewhere it continued to fall. In all countries employment in industry in 1985 was less than in 1979, although there are large inter-country differences: the fall was marginal in Finland but nearly one fourth in the United Kingdom. These developments suggest that employment in industry is more sensitive to periods of contraction than to expansion, probably because cyclical variations are superimposed on a long-term declining trend.[77] The continued expansion of employment in the service sector, which is less subject to cyclical fluctuations than industry, dampened the impact of job losses in industry on total employment during the recession.[78]

Another change in the pattern of employment, which is not independent of changes in the sex structure of the labour force and the sectoral composition of the demand for labour, is the growing importance of part-time work. One of the most significant aspects of the increased employment of women over the

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[75] This is a more rapid rate of increase than in any other recovery since the early 1950s. See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 54.

[76] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, p. 67.

[77] *Ibid.*, p. 74.

[78] *Ibid.*, pp. 72-74.

CHART 2.5.1

Employment indices by sex, 1970–1985

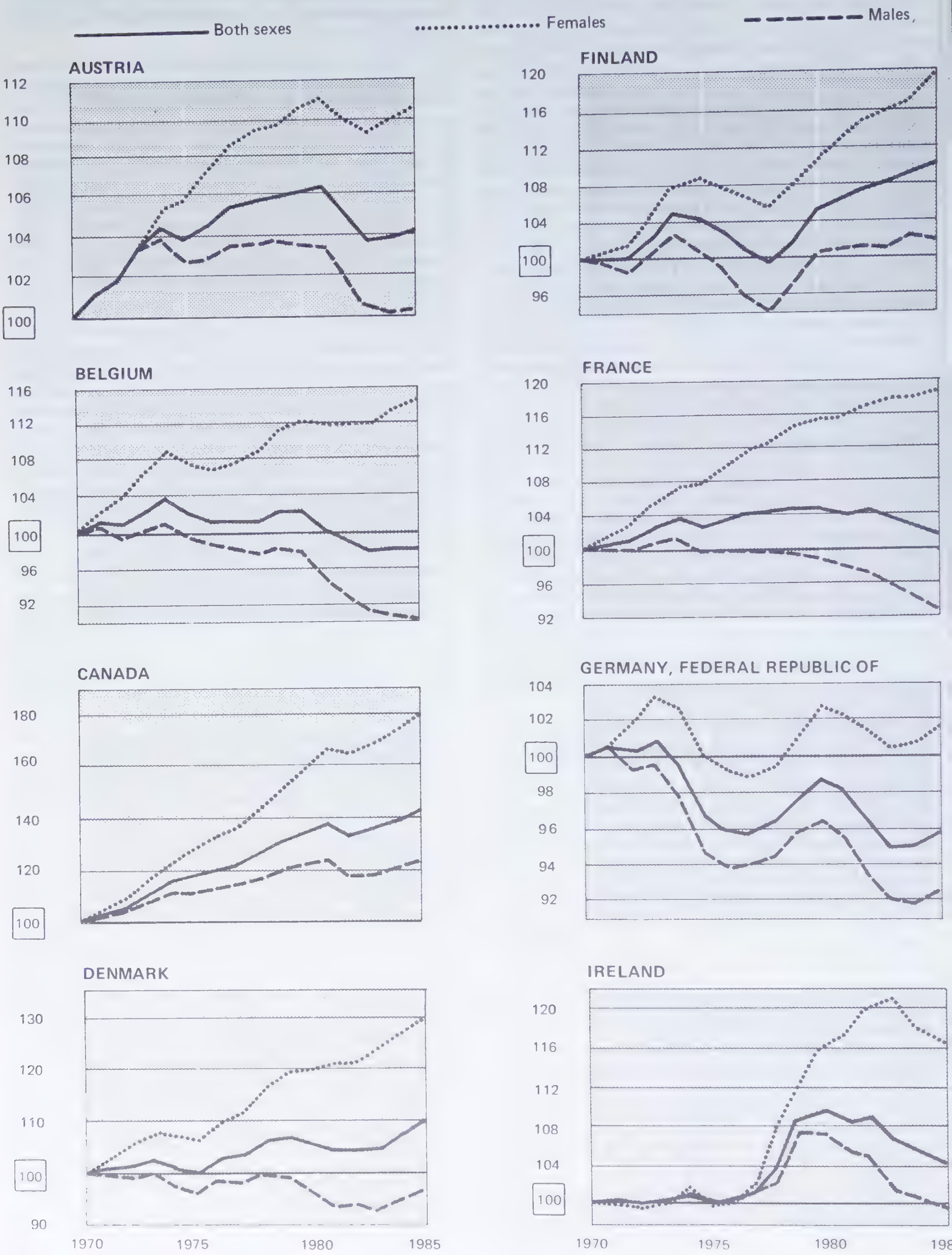
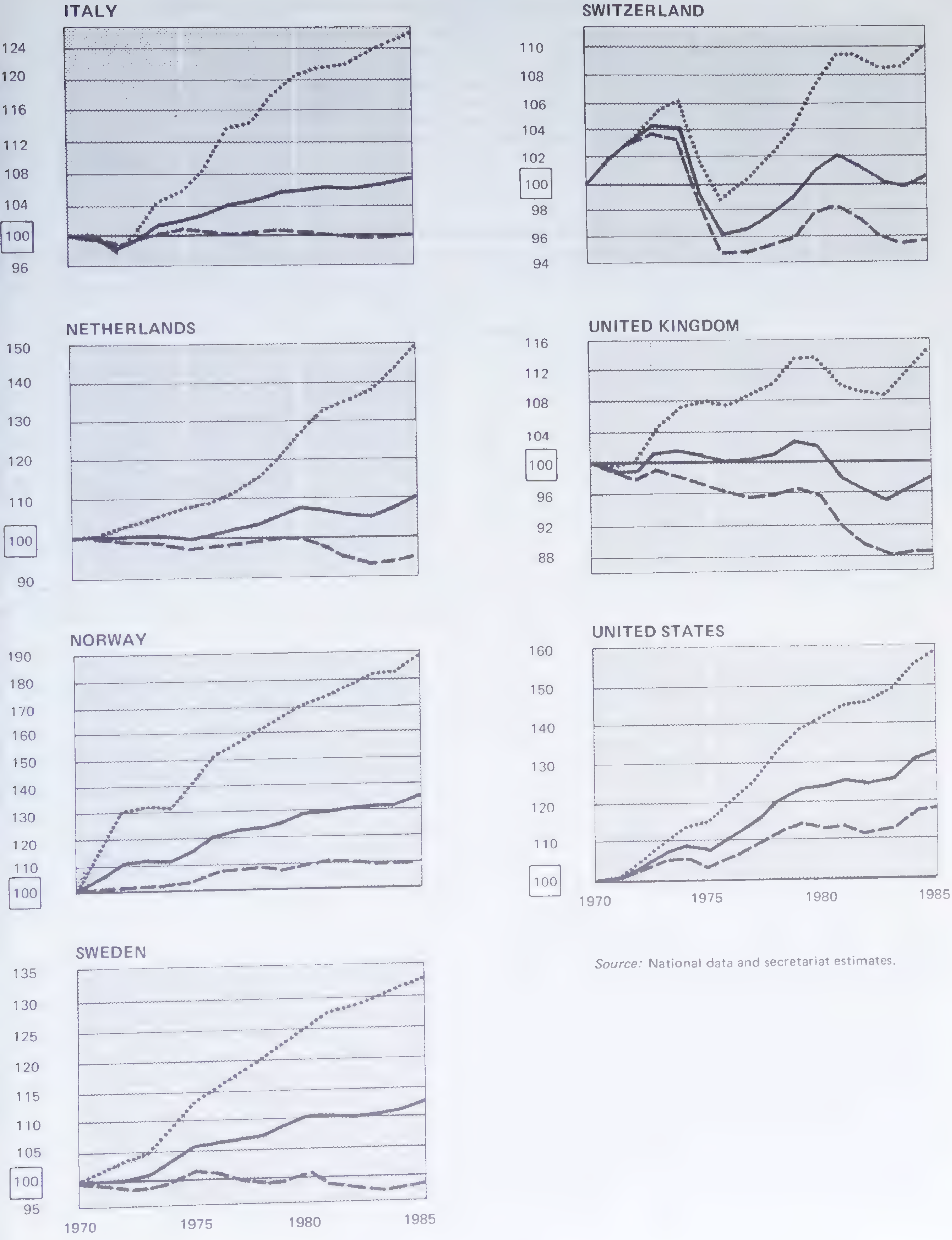


CHART 2.5.1 (continued)



Source: National data and secretariat estimates.

TABLE 2.5.5

Change in employment, 1979-1985
(*Thousands*)

	Western Europe			*North America*		
Period [a]	*Total*	*Men*	*Women*	*Total*	*Men*	*Women*
1979-1983	−2 550	−3 210	660	2 460	−890	3 350
1983-1985	1 180	−50	1 230	6 870	3 430	3 440
1979-1985	−1 370	−3 260	1 890	9 330	2 540	6 790

[a] Mid-year to mid-year.

TABLE 2.5.6

Changes in employment in industry and services, 1979-1985 [a]

	Percentage change in employment						*Percentage share in employment*			
	Industry [b]			*Services* [c]			*Industry* [b]		*Services* [c]	
	1979-1983	*1983-1985*	*1979-1985*	*1979-1983*	*1983-1985*	*1979-1985*	*1979*	*1985*	*1979*	*1985*
Austria	−7.6	−1.2	−8.8	4.1	2.3	6.4	40.0	36.9	52.0	55.9
Denmark	−11.9	8.8	−3.1	4.8	4.0	8.8	29.3	27.4	62.6	65.8
Finland	1.3	−1.9	−0.6	11.7	7.0	18.7	34.7	31.9	51.6	56.5
France	−7.5	−5.6	−13.1	4.8	0.8	5.6	34.6	30.9	56.6	61.4
Germany, Fed. Rep. of	−8.4	−0.9	−9.3	2.6	2.4	5.0	44.3	41.0	50.0	53.6
Italy	−3.1	−6.4	−9.4	10.8	9.7	20.5	37.5	33.0	47.7	55.9
Norway	−2.7	2.0	−0.7	9.9	4.0	13.9	30.2	27.9	61.2	64.9
Sweden	−7.2	1.6	−5.6	6.0	2.9	8.9	32.5	29.9	61.7	65.3
Switzerland	−3.2	0.2	−3.0	6.0	1.0	7.0	40.0	37.8	52.9	55.4
United Kingdom [d]	−21.0	−2.7	−23.7	−1.0	3.8	2.8	39.9	33.1	58.5	65.3

Source: National data and ECE secretariat estimates.

[a] Mid-year to mid-year.

[b] Includes mining and quarrying; manufacturing; energy (electricity, gas and water) and construction.

[c] Includes wholesale and retail trade; restaurants and hotels; transport; storage and communications; financing, insurance, real estate and business services; community, social and personal services.

[d] Data refer to employees only and exclude Northern Ireland.

past decade has been the large increase in part-time work.[79] The available data on full-time and part-time work suggest that, in spite of considerable differences between countries in the degree of part-time work, its rapid increase is a general phenomenon. A possible exception is the United States, although there are indications that part-time employment is rising there as well. In many of the countries concerned, the growth of part-time employment has been much more rapid than the expansion of full-time employment. According to available estimates, part-time employment in Canada increased by more than 50 per cent between 1973 and 1983 compared with an increase of 18 per cent in full-time jobs. The corresponding figures for France were 100 and 0.2 per cent and for the United States 15 and 20 per cent. Moreover, full-time employment fell in absolute terms in the Federal Republic of Germany, the Netherlands, Sweden and the United Kingdom, while part-time jobs rose sharply by 65, 450, 37 and 22 per cent, respectively.[80]

Part-time work is a distinctive feature of female employment. Typically, part-time employment represents 1 to 2 per cent of total male employment, although in some countries the proportion is between 5 and 11 per cent. Canada, the Netherlands, Norway, Sweden and the United States fall into this latter category. In the case of women, part-time employment accounts for only 5 to 10 per cent of the total in a few countries (Ireland and Italy, for example), but in general its share is 15 per cent or more and in some countries (Denmark, the Netherlands, Norway and Sweden) close to half of all employed women are engaged part-time.

In addition, part-time employment is highly concentrated in the service sector. Typically, more than 60 per cent of part-time workers are found in services and in some countries, including Belgium, Canada, Denmark and the Netherlands, the proportion is 80 per cent or more.[81] In Great Britain, in June 1984, 90 per cent of total part-time employees were in the service sector.[82] The results of a recent study of France suggest that the

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[79] See United Nations Economic Commission for Europe, *The Economic Role of Women in the ECE Region*, New York, 1980, p. 33, which also refers to the difficulties involved in making comparisons between countries due to the varying definitions of part-time work. The International Labour Organization defines part-time employment as work on a voluntary and regular basis for a daily or weekly period of substantially less than the normal or statutory hours of work. However, the criteria for determining what is "substantially" shorter than full-time work vary considerably. The importance of part-time employment in the public sector was discussed by the secretariat in United Nations Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 30, No. 2, New York, 1979.

[80] Chris de Neubourg, "Part-time work: An International Quantitative Assessment", ILO, *International Labour Review*, vol. 124 (1985), No. 5.

[81] *Ibid*.

[82] Olive Robinson, "The Changing Labour Market: The Phenomenon of Part-Time Employment in Britain" in National Westminster Bank, *Quarterly Review*, November 1985, pp. 10-29.

CHART 2.5.2

Employment indices by main sectors

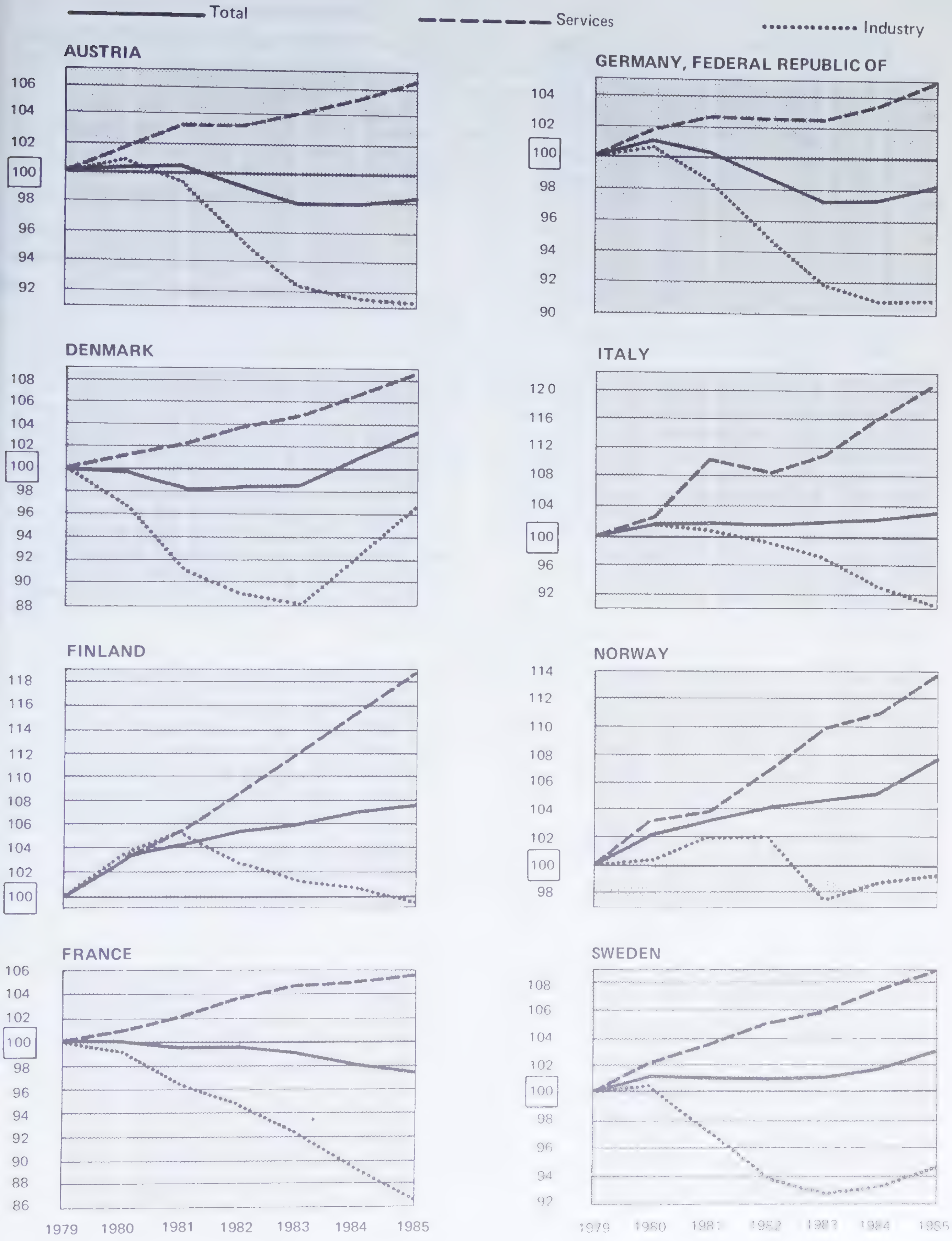
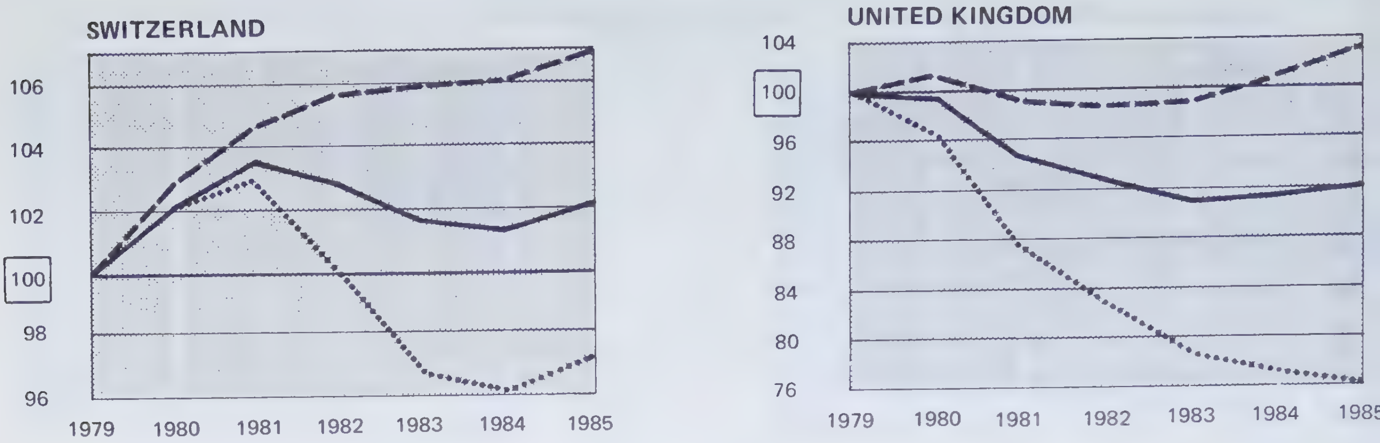


CHART 2.5.2 (continued)



Source: National data and secretariat estimates.

concentration of part-time work in services is increasing: the tertiary sector accounted for 81 per cent of part-time workers in 1984 compared with 71 per cent in 1970.[83]

In a number of countries part-time jobs are no longer a marginal element in total employment. In Norway, Sweden, the Netherlands, the United Kingdom and Canada, for example, between 15 and 30 per cent of all wage earners are part-time workers. In Austria, France, Switzerland and the United States, the proportion lies between 10 and 15 per cent.

The continued growth of part-time work since the beginning of the recession implies, moreover, that the recovery of employment in recent years has been weaker than is suggested by the commonly used data on the number of persons employed. Although statistics on the working hours of the part-time employed are not readily available, the evidence suggests that part-time workers are typically employed for about half the normal hours of full-time workers.[84] In Finland and Norway, for instance, the number of employed persons increased by 7.5 to 8 per cent between 1979 and 1985, but the total number of hours worked rose by only 3.5 per cent. Although the slower growth of hours worked is not only due to part-time workers, these figures are not inconsistent with the orders of magnitude referred to above.

If it is assumed that two part-time workers can be counted as one full-time worker, the impact of part-time work on "full-time equivalent" employment is significant. In France, for example, the number of employed persons decreased by nearly 1 per cent between 1979 and 1984 but in "full-time equivalents" employment fell by 2.5 per cent. Although this development has been influenced by the recession, it is unlikely to be a temporary phenomenon. In Great Britain, between March 1983 and June 1985, the total number of employees in employment increased but the full-time equivalent barely changed, as the following data illustrate:[85]

	Changes in thousands
Total number of employees in employment	+268
Part-time workers (female)	+453
Full-time workers	−185
Full-time equivalents	+24

What appears to be a significant increase of employment (1.3 per cent between March 1983 and June 1985) is reduced to a negligible gain (0.1 per cent) in terms of full-time equivalent. In this respect, the employment recovery appears to have been weaker than suggested by the conventional data.

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[83] François Peronnet and François Rocherieux, "Temps partiel féminin: Principal statut des emplois creés après le crise" in *Bilan de l'Emploi, 1984*, pp. 135-145.

[84] United Nations Economic Commission for Europe, *The Economic Role of Women in the ECE Region*, New York, 1980, p. 34.

[85] Bank of England, *Quarterly Bulletin*, December 1985.

2.6 FOREIGN TRADE AND PAYMENTS

In 1983-1984, international trade was stimulated by the surge in the United States import demand. In 1985 this stimulus was considerably reduced, while the main impulse came from western Europe. Nevertheless, developments in the United States continued to be of great importance, as they have been associated with growing imbalances in trade and payments which, in turn, have led to significant changes in international capital flows and exchange rates. These aspects are reviewed in the present section: subsection (ii) gives an account of recent changes in trade volumes and prices; subsection (iii) deals with trade and current account balances; subsection (iv) discusses aspects related to exchange rate movements; and subsection (v) describes changes in the United States international capital flows. The outlook for 1986 is presented at the end of this section.

(i) Introduction

In 1983-1984, international trade was stimulated by the strong recovery in the United States domestic demand, which was accompanied by a considerable loss in this country's competitiveness. This led to a rapid deterioration in the trade balance of the United States, as well as a significant improvement in those of Japan, a number of west European countries and some developing countries. The rise in the United States trade deficit might have been expected to lower the dollar; but increased net inflows of capital (supposedly attracted by interest rate differentials favouring dollar assets), continued to boost the dollar exchange rate.

Since mid-1984, economic growth in the United States has weakened, interest rate differentials have narrowed and in the second quarter of 1985 the dollar declined sharply. However, current account imbalances continued to widen and protectionist pressures in the United States to strengthen. In September the Group of Five agreed to co-ordinate their intervention in the exchange markets and, subsequently, the dollar renewed its decline; at the same time interest rates were raised in Japan, in an attempt to discourage capital outflows from this country.

From its high in February 1985, the United States dollar has fallen considerably. But this is likely to have had little impact on the 1985 trade volumes, given the relatively long lags that usually intervene between exchange rate changes and their volume effects. Still there was a marked slowdown in import growth in the United States. In 1985 most of the trade expansion in the ECE region originated from imports into western Europe, in contrast with 1983/84 when the main impulse came from the United States.

On the other hand, the terms of trade reversal, which is associated with the recent exchange rate changes, became apparent

TABLE 2.6.1

Trade volumes

(Percentage change from previous year)

	Exports			*Imports*		
	1983	*1984*	*1985 (Jan.-Sept.)*	*1983*	*1984*	*1985 (Jan.-Sept.)*
France	3.4	5.3	2.8	−1.9	2.3	3.3
Germany, Fed. Rep. of	−0.3	9.1	7.5	3.9	5.2	4.0
Italy	5.2	6.5	5.7	1.4	9.0	13.9
United Kingdom	0.6	8.3	9.9	7.7	9.5	6.9
Total 4 countries	*1.6*	*7.7*	*6.7*	*2.8*	*6.1*	*6.2*
Austria	4.5	9.4	11.8	6.3	8.6	6.3
Belgium-Luxembourg	3.9	4.7	3.1	−1.0	4.2	2.0
Denmark	8.6	6.1	4.2	5.1	7.8	5.9
Finland	3.0	11.5	2.4	3.2	—	3.8
Ireland	12.0	19.2	7.6	3.1	10.4	4.8
Netherlands	5.0	5.7	6.1	3.2	6.3	7.9
Norway	12.4	10.1	4.6	−5.0	15.8	11.0
Sweden	12.5	6.8	3.3	4.0	3.9	10.3
Switzerland	—	6.9	6.6	3.0	7.7	5.4
Total 9 countries	*5.9*	*7.1*	*5.2*	*2.2*	*6.3*	*6.1*
Total 13 countries	*3.1*	*7.5*	*6.1*	*2.6*	*6.2*	*6.2*
Canada	8.8	22.2	5.7	14.0	18.5	3.4
United States	−6.4	6.8	−0.5	10.4	23.9	6.8
Total North America	*−2.3*	*11.4*	*1.5*	*11.0*	*22.9*	*6.2*
Total above [a]	*1.8*	*8.4*	*5.0*	*4.9*	*11.0*	*6.2*

Source: IMF, *International Financial Statistics*, January 1986; OECD, *Monthly Statistics of Foreign Trade*, December 1985, and national sources.

[a] Weights are dollar trade values in 1980.

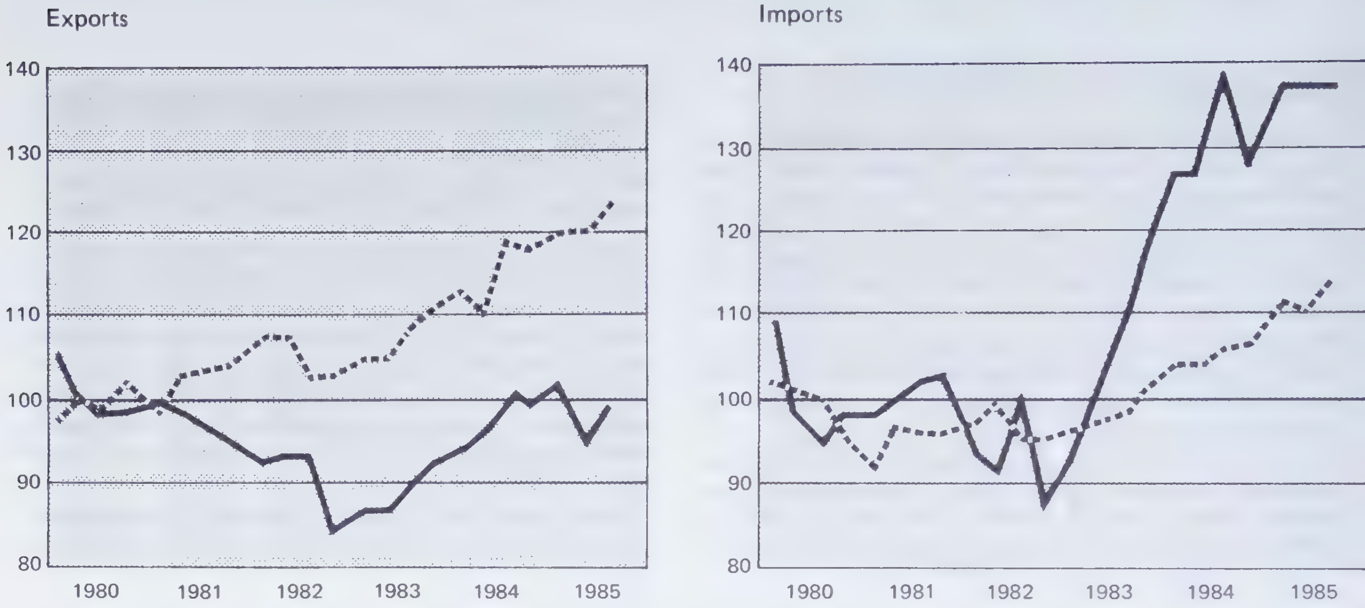
CHART 2.6.1

Trade volumes and unit values of North America and western Europe, 1980 — 1985

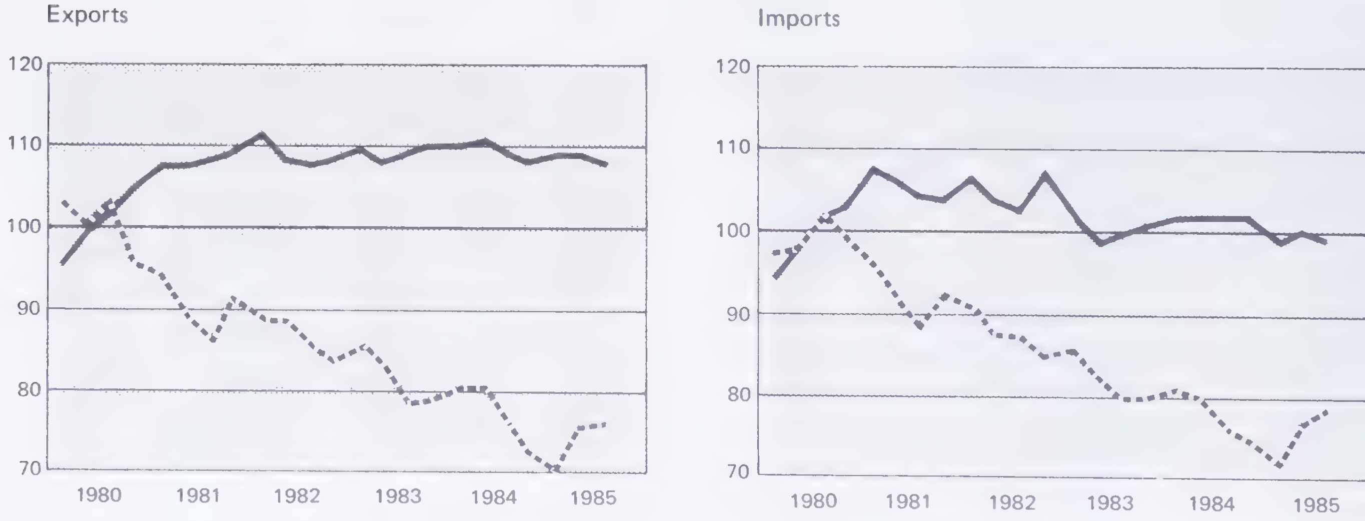
(1980 = 100)

━━━━ North America
┅┅┅┅ Western Europe

VOLUME INDEX [a]



UNIT VALUE INDEX IN CURRENT US DOLLARS



Source : As for table 2.6.1.

a Seasonally adjusted by the ECE secretariat.

TABLE 2.6.2

The estimated direct impact of volume growth in North American and west European imports on the volume growth of total exports from the two regions
(*Percentage changes from previous year*)

Importers	*Growth in imports into*		*Direct impact on exports*		
	North America	*West Europe*	*North America*	*West Europe*	*Actual growth in total exports*
			1984		
Exporters					
Western Europe	40.5	6.2	3.1	4.3	7.5
4 major countries	39.0	6.1	3.5	3.7	7.7
9 smaller countries	42.8	6.3	2.6	4.2	7.1
North America	24.4	1.7	4.8	0.4	11.4
Canada	32.1	6.6	23.5	0.6	22.2
United States	18.9	0.2	3.6	0.1	6.8
Total above	30.6	5.6	4.1	3.8	8.4
			1985 (Jan.-June)		
Exporters					
Western Europe	23.0	6.7	2.2	4.5	6.8
4 major countries	27.0	8.3	2.9	4.7	7.6
9 smaller countries	21.7	4.8	1.8	4.3	5.4
North America	4.3	1.7	1.6	0.5	3.1
Canada	10.0	−1.8	7.5	−0.1	5.2
United States	1.8	3.0	0.4	0.8	1.8
Total above	11.7	6.0	1.8	4.0	5.7

Source: ECE secretariat estimates based on data published in IMF, *International Financial Statistics*, January 1986 and OECD, *Monthly Statistics of Foreign Trade*, December 1985.

in the second half of the year. Hence, current account developments in 1985 reflect these effects: there was a depreciation-induced worsening in the United States and a further improvement for its trading partners.

(ii) The slowdown in trade expansion

In the market economies of the ECE region, the growth in the volume of trade decelerated markedly in 1985, to about half its rate in 1984. The fall was in line with earlier projections:[86] although there was an unexpected fall in oil imports and a weaker than foreseen rise in non-oil commodity trade, trade in manufactures is likely to have risen faster than had been forecast.[87]

The deceleration was particularly marked in North America. In the United States, import volumes increased by about 7 per cent, less than one third the annual rate in 1984; while import growth was still strong in the first quarter, there was a virtual stagnation in the second and third quarters (chart 2.6.1). In value terms, the growth in the United States imports accelerated in the fourth quarter, probably a reflection of increased import prices arising from the dollar depreciation. Import growth in Canada was also much weaker than in 1984.

In western Europe, the volume of imports rose in the first nine months of 1985 at an annual rate of 6 per cent, the same as a year earlier. The 1985 rise in imports reflects increases in the first and third quarters—in the second quarter there was a slight decline (chart 2.6.1). Among the major west European countries, import growth accelerated in France and Italy, but slowed down in the Federal Republic of Germany and the United Kingdom. Imports into the smaller west European countries rose at very much the same rate as in 1984: an acceleration in Finland, the Netherlands and Sweden was offset by weaker import growth elsewhere.

The *volume of exports* from the market economies of the ECE region grew at an annual rate of 5 per cent in January-September 1985, down from a more than 8 per cent increase in 1984. This rate is likely to have been maintained in the last quarter. The changes in export volumes were more uneven than for imports. In the United States, a large fall in the second quarter put the volume of exports in the first three quarters slightly below its level a year earlier; this was a marked reverse from the growth of nearly 7 per cent in 1984. The growth of Canadian exports, which follows closely the course of the United States imports, decelerated sharply from the high rate of 1984. In western Europe exports increased by some 6 per cent, compared with 7.5 per cent in 1984. Except for France, exports from the other major west European countries grew relatively fast. There was also strong export growth in Austria, Ireland, the Netherlands and Switzerland.

In 1985 the expansion of exports from the market economies of the ECE region was largely due to the rise in west European imports; the North American impulse, which was quite important in 1983-1984, clearly lost momentum (table 2.6.2). This was especially the case for trade between the United States and Canada. The United States imports from western Europe continued to increase—at least in the first half of the year—at a much higher rate than total imports.[88] Thus, in 1985 the United States contribution to western Europe's export growth was still important. Nevertheless, as in 1984, it was intra-west European

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[86] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985.

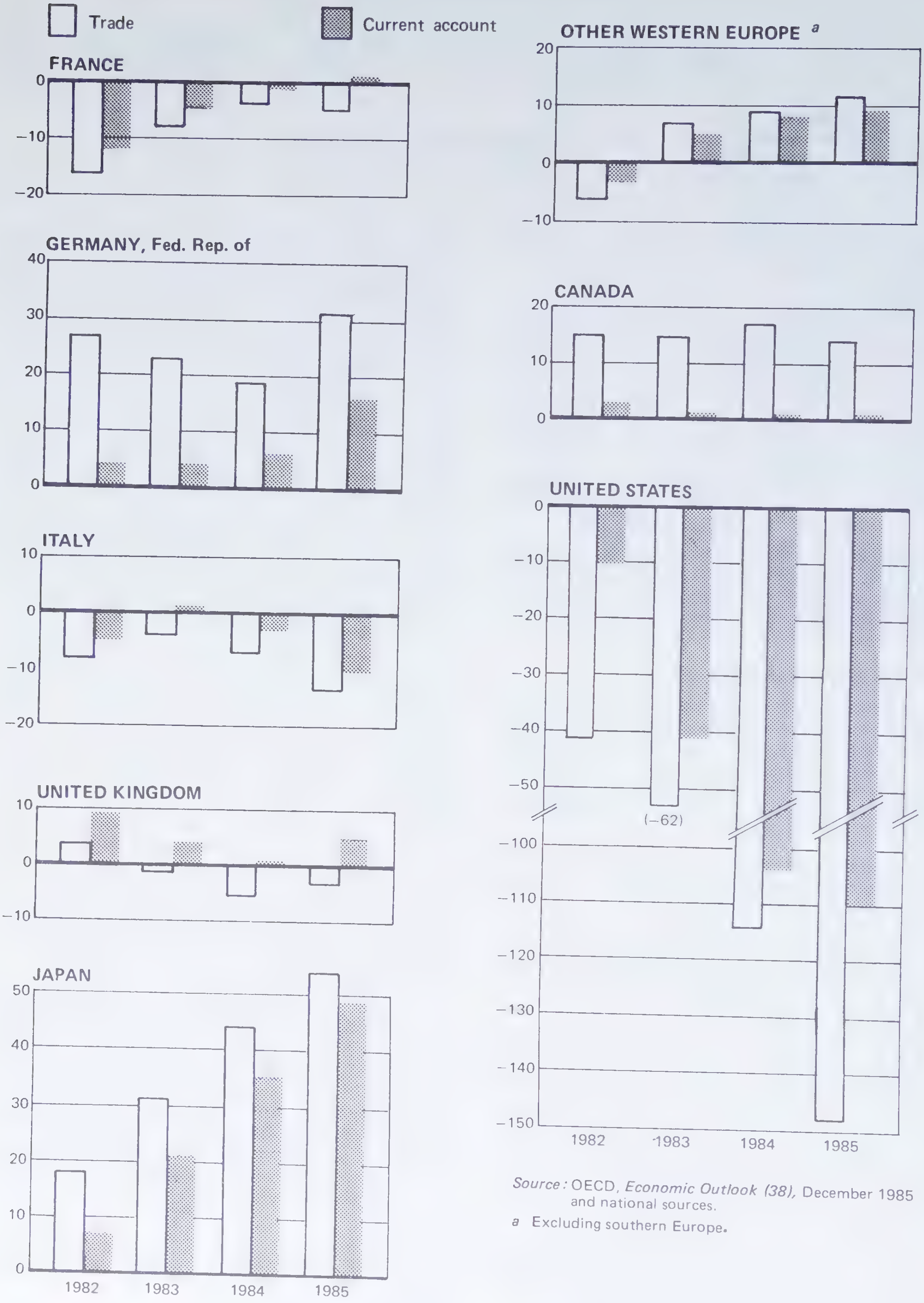
[87] Data on merchandise trade by commodity groups are not yet available for 1985. The above considerations are based on data for manufactured exports from the developed market economies and exports from developing countries by major export products.

[88] In January-June 1985 the volume of the United States total imports rose at an annual rate of some 10 per cent, while imports from western Europe are estimated to have increased, in volume, by more than 20 per cent.

CHART 2.6.2

Balances on trade and current account, 1982-1985

(Billions of US dollars)



Source: OECD, *Economic Outlook (38),* December 1985 and national sources.

a Excluding southern Europe.

TABLE 2.6.3

Terms of trade
(*Percentage change from the previous year or quarter*)

	1983	1984	1985 Jan.-Sept.	1985 I	1985 II	1985 III
Western Europe	1.1	−0.6	0.7	−1.0	1.0	4.0
4 major countries	1.7	−1.2	1.6	−1.0	2.1	5.1
9 smaller countries	0.2	0.4	−0.9	−0.9	—	2.0
North America	4.9	−1.2	1.2	3.1	—	−0.9
Canada	3.0	−4.0	−2.5	1.1	−2.2	1.1
United States	5.5	−0.5	2.2	3.6	—	−0.9

Source: See table 2.6.1.

trade that made the largest contribution. The reason for this is that intra-regional trade accounts for nearly two thirds of total exports from western Europe, while the North American market (United States and Canada) takes only about 10 per cent of the total. The disparity between these shares tends to be still larger for the smaller west European countries. Therefore, the impact of North American import growth on west European exports tends to be relatively small: even in 1984, when North American imports from western Europe rose by as much as 40 per cent, this contributed less to the growth in western Europe's total exports than a 6 per cent rise in the region's own imports.

Dollar trade *prices*, on an annual basis, continued to decrease in the first three quarters of 1985. The fall reflects mainly an appreciation of the dollar between January-September 1984 and the same period in 1985, although commodity prices also fell in SDR terms (see table 4.1.2 below).

On a quarter-to-quarter basis, however, trade prices in dollar terms began to reflect the depreciation of the dollar from February 1985: the dollar prices of exports and imports of the west European countries increased in the second and third quarters of 1985 (chart 2.6.1). Western Europe's *terms of trade* started to improve in the second quarter of 1985, after worsening in 1984 and early 1985 (table 2.6.3). In North America trade prices have been fairly stable since mid-1983. The terms of trade, which had increased significantly in 1983, deteriorated slightly in 1984 and improved again, on an annual basis, in the first three quarters of 1985; however, the terms of trade of the United States declined between the second and third quarters.

(iii) Growing trade and current account imbalances

Recent developments in international economic relations have been very much dominated by the dramatic rise in the trade and current account deficits of the United States. In 1985 the United States trade deficit is estimated at more than $148 billion, four times the deficit in 1982 (chart 2.6.2).[89] The current account deficit deteriorated still more, from $8 billion in 1982 to around $110 billion: in 1985, owing to rising interest payments, the surplus on current invisible transactions shrank considerably.[90]

Several factors are behind this decline in the external position of the United States. Estimates made by the Council of Economic Advisers[91] suggest that the strong recovery in the United States, the gap between growth in the United States and in other industrialized countries, and the decline in exports to highly indebted developing countries might, together, have been responsible for some 40 per cent of the increase in the trade deficit between 1982 and 1985. By implication, the rest of the deterioration can be ascribed to the rising dollar.

In addition, the United States traditional surplus in the invisibles account has fallen sharply, owing to a rising deficit in non-factor services (travel, transportation) and a continuous decline in net investment income. However, as mentioned already, invisible receipts are understated and the actual surplus is likely to be larger than the recorded one.

The widening trade and current account deficits of the United States have been mirrored by a marked improvement in those of some of its major trading partners. Japan is the most obvious one, but Canada, Brazil, Taiwan and a number of west European countries, particularly the Federal Republic of Germany, have also greatly improved their positions.

The Japanese trade surplus rose from $18 billion in 1982 to $54 billion in 1985, a substantial proportion of this increase being accounted for by trade with the United States.[92] Japan's invisible deficit in this period fell from $11 billion to $7 billion. In particular, there has been a fast growth in investment income, resulting from the rapid increase in capital outflows in recent years. The surplus on the current account is estimated at $47 billion in 1985.

There was also a general improvement in the external position of west European countries (among the larger countries, Italy is an exception with a weakening of both the trade and current account balances). In 1985 the combined current account of western Europe was in surplus by about $20 billion. Most of this, however, is accounted for by the Federal Republic of Germany ($16 billion) and by some of the smaller countries (the Netherlands, Switzerland, Norway). The current account of the Federal Republic of Germany moved into surplus in 1982 and has risen every year since, mainly due to a decline in net payments on services and investment income; in 1985 there was also a considerable improvement in the trade balance. In France, the 1985 trade deficit was about the same as in 1984, but an improvement in invisibles led to a small current account surplus. In the United Kingdom, the trade deficit fell slightly, although export earnings weakened during the year; but thanks to an improvement in the invisibles account, the British current account surplus was around $5 billion, compared with less than $2 billion in 1984. While the trade and current account balances of the smaller west European countries have improved since 1982, most of the gain is accounted for by the Netherlands, Belgium and Norway (except in 1985). The external positions of the other smaller countries has not changed very much.

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[89] This figure refers to exports, f.o.b. less imports, c.i.f.; on a customs basis (exports less imports, f.o.b.) the trade deficit is smaller (in 1984 the former deficit was $123 billion and the latter $108 billion).

[90] This is a preliminary estimate, based on an estimated trade deficit of $143 billion (see *Economic Report of the President*, Annual Report of the Council of Economic Advisers, Washington, D.C., February 1986); as the recorded trade deficit was about $148 billion, the ERP figure is likely to be an underestimate. The United States current account deficit tends to be overstated, due to unrecorded or under-recorded receipts. The sum of total current account positions around the world, which should be zero, shows a substantial deficit (between $70 billion and $90 billion, according to different estimates). A large share of this "world deficit" arises from unrecorded services, many of which are purchased by governments but supplied by private parties: the former's payments are usually recorded accurately but not the latter's receipts. The United States, being a major service exporter, is likely to have a share in these unrecorded receipts. For example, Canada records several billion dollars a year more in service payments to the United States than is shown in the latter's receipts from Canada. There is also under-recording of investment income and the United States, as a big holder of foreign assets, is probably affected by this as well.

[91] See the *Economic Report of the President*, Annual Report of the Council of Economic Advisers, 1984 and 1985 issues.

[92] See Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985.

(iv) Exchange rates, competitiveness and commodity prices

The dramatic exchange rate movements of the past few years have had a considerable impact on trade flows: in the first place they affected trade prices (in particular through changes in individual countries' competitiveness) and hence influenced volume developments.

(a) Competitiveness and exchange rates

The increase in the United States trade deficit and the corresponding improvement in the trade balance of its trading partners are, to a large extent, attributable to changes in relative competitive positions.

Relative unit export values, in national currencies and in dollars, are shown in chart 2.6.3. [93] In national currency terms, the low inflation countries—the Federal Republic of Germany, Switzerland, Japan and the United States—improved their competitive position in 1980-1984 (in the Federal Republic of Germany and in Switzerland there was no real improvement in 1982-1984, but the improvement is clear in relation to 1980). In France and the United Kingdom there was a marked deterioration of competitiveness.

However, when exchange rate changes are taken into account, this picture is considerably modified. The relative competitiveness of the United States deteriorates sharply: relative to the dollar unit values of its competitors, its export unit values in early 1985 were almost 40 per cent higher than in 1980. The relative position of Japan also deteriorated somewhat, while France, the United Kingdom, the Federal Republic of Germany and Switzerland were all more competitive than in 1980.

The recent depreciation of the dollar has led to a marked improvement in the competitiveness of the United States and a small deterioration in that of France, the United Kingdom, Switzerland and the Federal Republic of Germany. In Japan, owing to the very low domestic inflation rate, relative unit export values declined despite the appreciation of the yen. However, these recent changes are unlikely to have much effect on trade volumes until later in 1986.

(b) Exchange rates and commodity prices [94]

Exchange rate movements also have a significant impact on the prices of dollar priced commodities. [95] First, there is the impact of exchange rate movements on the commodity prices expressed in non-dollar currencies; secondly, there are the effects on the dollar prices of primary commodities.

For countries other than the United States, an appreciation of the dollar *vis-à-vis* their currencies increases the national currency prices of foreign (dollar-priced) goods. Thus, although oil prices have been declining since 1981 and non-oil commodity prices fell sharply in 1984-1985, commodity prices in west European currencies rose considerably in the last few years; only in mid-1985 did these start to decline, reflecting the depreciation of the dollar since February (chart 2.6.4).

Changes in the dollar exchange rate also influenced commodity prices in dollar terms. As mentioned above, for importers outside the United States an appreciation of the dollar leads to a rise in the prices of imported goods relative to domestic products. However, in exporting countries, the prices of exported goods rise in relation to those of goods sold in the domestic market. Consequently, import demand declines, export supply increases and dollar prices tend to fall. In the past few years the dollar's appreciation has disrupted the demand-supply adjustment mechanism in commodity markets, including that for crude oil: in non-dollar countries, demand was discouraged by rising domestic prices at a time when world market prices were falling. In fact, more than half of the 22 per cent decline in commodity prices between May 1984 and September 1985 is likely to have been due to the strengthening of the dollar. [96]

Other things being equal, the depreciation of the United States dollar since February 1985 should lead to some revival of dollar commodity prices; actually they did pick up somewhat in the fourth quarter of 1985. However, there are also other factors at work, such as excess supply, that will tend to offset this improvement.

(v) Capital flows: the United States as a net debtor

In the last decade, there have been considerable changes in the pattern of international capital flows. First, the recycling of the oil exporters' surplus receipts in the wake of the two oil shocks was followed by capital flows moving mostly between the industrialized countries; second, the United States, traditionally a net exporter of capital, became a net importer on a large scale. This subsection briefly focuses on the latter development.

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[93] The "relative" indices are obtained by dividing the index for each country by an index of the weighted average of its major competitors (here taken as the countries of North America, western Europe and Japan).

[94] The impact of exchange rate movements on commodity prices depends, primarily, on the currency in which prices are denominated. In the following only the impact on dollar-denominated commodity prices is discussed.

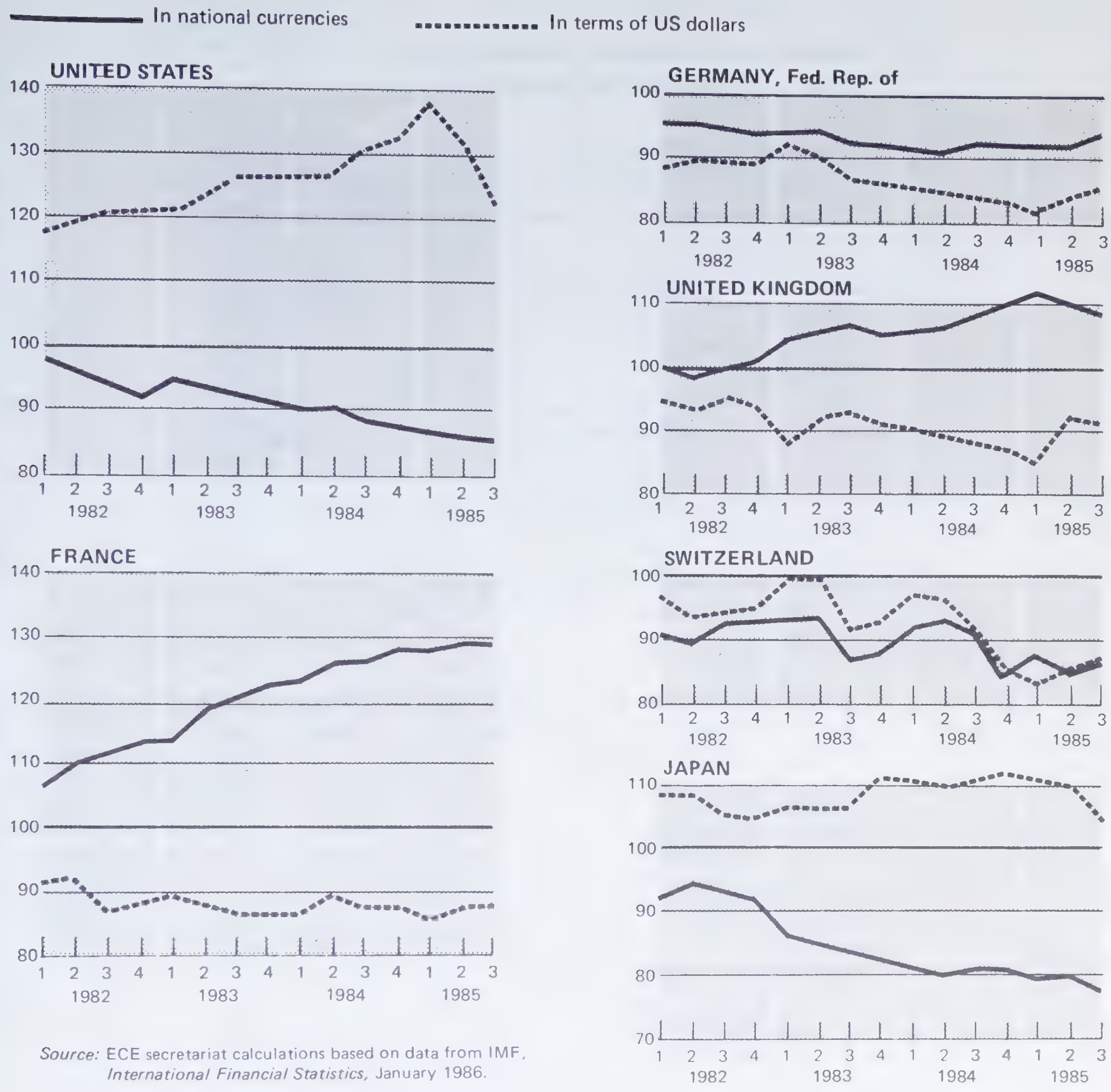
[95] The relationship between exchange rate changes and commodity prices involves aspects that are relevant for both the exporting and the importing countries. Here, the focus is on the commodity importing countries of western Europe and North America.

[96] An econometric analysis has shown that the elasticity of dollar prices of primary commodities with respect to the exchange rate of the dollar *vis-à-vis* a basket of major currencies (including the dollar) is about −3/4. In other words, a 10 per cent appreciation of the dollar would imply a 7.5 per cent fall in the dollar prices of primary commodities. (See IMF, *World Economic Outlook*, Washington, D.C., May 1983, April 1984 and April 1985.) Between the first quarter of 1984 and 1985 the effective exchange rate of the dollar increased some 16 per cent; this would imply a 12 per cent decline in the dollar prices of primary commodities.

CHART 2.6.3

Relative unit export values

(1980 = 100)



Source: ECE secretariat calculations based on data from IMF, *International Financial Statistics,* January 1986.

(a) Shifts in the United States capital account[97]

The counterpart of the rise in the current account deficit of the United States was a rapid increase in net capital inflows (table 2.6.4). No large changes occurred in net official flows, but private capital moved from a net outflow of about $20 billion in 1981-1982 to a net inflow of more than $80 billion in 1984-1985. The turnround was particularly large for bank-reported transactions, but other private capital inflows also expanded. Moreover, the statistical discrepancy—which arises from under-recorded service receipts but also (and perhaps mostly) from unrecorded capital inflows—also rose substantially in 1984 and may have increased further in 1985.

According to the United States balance of payments data, the growth in net private capital inflows reflects mainly a very sharp slowdown in the increase of United States assets abroad; this was some $2 billion in the first half of 1985 against $108 billion in 1982.[98] The data do not show any significant accelera-

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[97] Published data on the United States capital flows contain a number of shortcomings (see, for example, Morgan Guaranty Trust Company of New York, *World Financial Markets*, January 1986). Conclusions based on these data should, therefore, be made with caution.

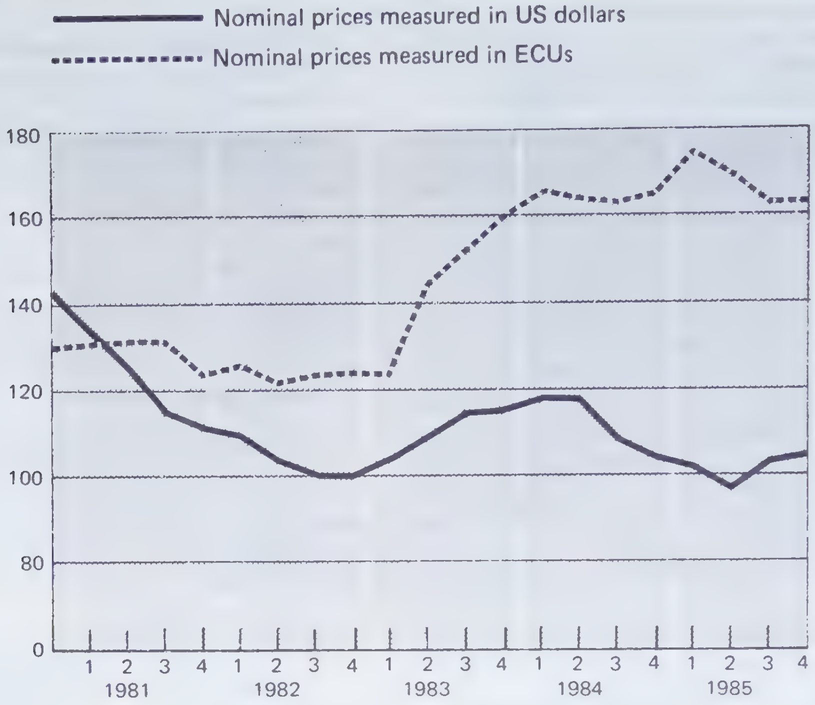
[98] This is based on data for the first half of 1985 (data for the first three quarters are available, but these are not strictly comparable with the figures for previous years). The inclusion of third quarter data in

(Continued on page 61.)

CHART 2.6.4

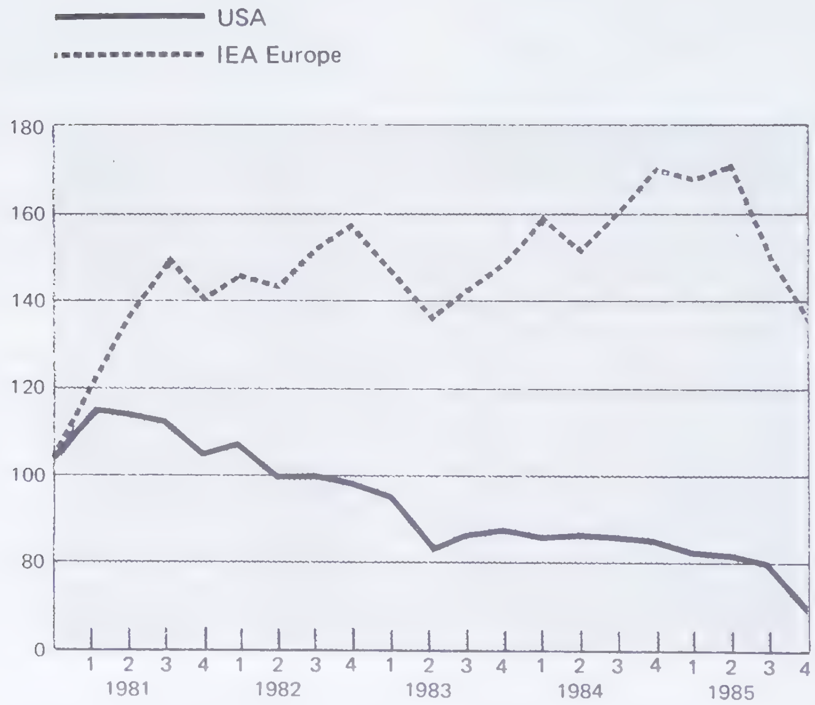
A. Quarterly indices of free market prices of selected primary commodities exported by developing countries, 1981 – 1985

(1975 – 1977 = 100)



B. Indices of current crude oil import prices expressed in national currencies

(1980 = 100)



Source: UNCTAD, *Monthly Commodity Price Bulletin,* December 1985, and IEA (OECD), *Energy Prices and Taxes,* Third quarter 1985; for oil prices, fourth quarter are ECE secretariat estimates.

TABLE 2.6.4

Summary of United States international transactions
(Billions of US dollars)

	1981	*1982*	*1983*	*1984*	*1985* [a]
Current account	6.3	-8.1	-40.8	-101.5	-124.0
US assets abroad, net (increase/capital outflow (-))	-111.0	-119.2	-55.0	-20.4	-6.5
US official assets	-10.3	-11.1	-6.2	-8.6	-4.6
US private assets	-100.8	-108.1	-48.8	-11.8	-1.9
Direct investment	-9.6	4.4	-5.4	-4.5	-4.5
Foreign securities	-5.8	-8.1	-7.0	-5.1	-8.7
US claims	-85.4	-104.4	-36.4	-2.2	11.3
Foreign assets in the United States, net (increase/capital inflow (+))	83.3	94.4	84.3	97.3	79.0
Foreign official assets	5.0	3.7	5.8	3.4	-6.1
Foreign private assets	78.3	90.8	78.5	93.9	85.1
Direct investment	25.2	13.8	11.9	22.5	14.0
US Treasury securities	2.9	7.1	8.7	22.4	15.8
Other US securities	7.2	6.4	8.6	13.0	33.3
US liabilities	43.0	63.5	49.2	36.0	22.0
Allocation of special drawing rights	1.1	—	—	—	—
Statistical discrepancy	20.3	32.8	11.5	24.6	51.7
Memorandum items					
Official capital, net	-5.3	-7.4	-0.4	-5.2	-10.7
Private capital, net	-22.4	-17.3	29.7	82.1	83.2
Bank reported	-42.0	-45.1	19.4	23.2	36.3
Other	19.6	27.8	10.3	58.9	46.9
Adjusted US private assets abroad [b]	-60	-45	-15	-2	1 [c]
Adjusted foreign private assets in the US [b]	37	28	51	84	84 [c]

Source: United States Department of Commerce, *Survey of Current Business*, various issues.

[a] First half of the year, at an annual rate.

[b] See P. Isard and L. Stekler, "U.S. International Capital Flows and the Dollar", in *Brookings Papers on Economic Activity*, 1, 1985.

[c] Adjusted by the ECE secretariat for IBFs claims and liabilities.

tion in the growth of foreign private assets in the United States: an increased growth in foreign holdings of securities (US Treasury and other) was offset by a slowdown in the rise of the United States liabilities and of foreign direct investment in the United States (except in 1984 when the latter increased sharply). Hence, most of the increase in the net inflow of private capital would appear to have consisted of capital that used to be placed abroad by United States residents, rather than to foreign capital coming from abroad.

However, these balance of payments data are misleading, mainly because of the establishment of International Banking Facilities (IBFs) at the end of 1981 and early 1982. [99] This development inflated the increase of both the United States banks' claims on foreigners and United States banks' liabilities to foreigners in these two years, as both assets and liabilities were shifted from the books of banking offices abroad to the books of banking offices in the United States. When the data are adjusted for this change in book-keeping, the 1981-1982 increases in the United States private assets abroad and in foreign private assets in the United States (last two rows of the memorandum items in table 2.6.4) are half the size of those shown by the balance of payments data. [100] Hence, in the first half of the 1980s, the slowdown in the rise of United States private assets abroad was much less than suggested by balance of payments data, while the acceleration in the growth of foreign private assets in the United States was stronger. In any case, there is no doubt that United States banks have significantly reduced new lending to foreigners. Part of the fall is accounted for by claims on west Europeans (particularly on United Kingdom residents); but most of it was due to lower claims on Latin American countries in the wake of the debt crisis (table 2.6.5). [101] These countries faced credit rationing and had to earn an increased part of their debt service obligations by means of improvements in the trade balance. In the United States balance of payments, this appears as a worsening of the trade balance and a capital inflow corresponding to the reduced rate of bank lending.

However, the adjusted figures mentioned above reveal that a sizeable proportion of the rise in net capital inflows is due to rapidly increasing foreign assets in the United States. The increase was quite large for Japanese-held assets: a very high savings/investment ratio and relatively low interest rates in Japan help to explain this increase. The statistical discrepancy in table 2.6.5, which largely reflects unrecorded capital inflows,

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(*Footnote 98 continued.*)
the estimate for 1985 makes the increase in US assets abroad, and that in foreign assets in the United States, somewhat larger than the estimates in table 2.6.4. The *net* inflow, however, is very close to the figure for the first two quarters.

[99] The IBFs were created in the United States to accept funds and make loans to non-United States residents and foreign corporations. They are exempt from reserve requirements and benefit from other regulatory and fiscal privileges. For a discussion of this issue, see P. Isard and L. Stekler, "US International Capital Flows and the Dollar", in *Brookings Papers on Economic Activity*, 1, 1985.

[100] These adjusted figures are published in P. Isard and L. Stekler, *loc. cit.* They are further adjusted for the consolidation of outflows and inflows between US firms and their foreign affiliates. This adjustment is quantitatively much smaller than that for IBFs.

[101] This may partly reflect the above-mentioned effect of the establishment of IBFs (note that data in table 2.6.5 are not adjusted for this effect).

Table 2.6.5

United States international transactions with selected trading partners

(*Billions of US dollars*)

	1982	*1983*	*1984*	*1985* [a]
Current account balance with:				
Canada	0.2	—	−5.3	−6.2
Western Europe	3.7	−6.0	−27.6	−34.0
Japan	−15.4	−18.4	−34.8	−47.4
Latin America and other western hemisphere	8.4	−7.6	−13.4	−12.8
Eastern Europe and Soviet Union	3.0	1.7	2.2	2.0
US assets abroad (increase −)				
Canada	−1.5	−8.8	−0.7	−2.2
Western Europe	−44.0	−10.5	−14.3	−19.1
Japan	−2.5	−3.4	0.7	4.0
Latin America and other western hemisphere	−46.6	−13.4	3.6	9.6
Eastern Europe and Soviet Union	0.1	0.1	0.2	—
Foreign assets in the US (increase +)				
Canada	1.0	6.2	6.6	1.2
Western Europe	44.8	38.7	48.8	42.1
Japan	−1.9	7.0	13.8	20.2
Latin America and western hemisphere	31.1	27.7	19.7	11.4
Eastern Europe and Soviet Union	0.1	0.1	—	0.2
Statistical discrepancy				
Canada	0.3	2.6	−0.6	7.2
Western Europe	−4.5	−22.2	−7.0	11.0
Japan	19.9	14.8	20.3	23.0
Latin America and western hemisphere	7.1	−6.7	−9.9	−8.1
Eastern Europe and Soviet Union	−3.2	−1.9	−2.4	−2.2

Source: As for table 2.6.4.

[a] First half of the year, at an annual rate.

Table 2.6.6

Long-term interest rates: differential between government bond yields in the United States and in other selected countries

(*Per cent per annum*)

					1985		
	1981	*1982*	*1983*	*1984*	*I*	*II*	*III*
Differential, nominal rates							
France	−1.9	−2.6	−2.3	0.1	0.4	0.2	—
Germany, Fed. Rep. of	3.3	3.9	3.4	4.7	4.4	4.1	4.2
United Kingdom	−1.0	—	0.5	1.8	0.8	0.4	0.3
Switzerland	8.2	8.1	6.8	7.8	6.9	6.3	5.9
Japan	5.1	4.9	3.9	5.7	5.2	4.8	4.7
Diffential, real rates							
France	1.0	3.0	4.1	3.2	3.2	3.1	2.3
Germany, Fed. Rep. of	−0.8	3.1	3.5	2.8	3.1	2.9	3.0
United Kingdom	0.5	2.5	1.9	2.5	2.7	3.7	3.2
Switzerland	4.2	7.6	6.6	6.5	7.1	6.3	5.7
Japan	−0.8	1.4	2.6	3.6	3.6	3.1	3.3
Differential nominal rates, corrected by discount or premium on forward exchange rate [a]							
France	−2.6	−1.2	0.4	0.4	2.1	2.7	2.2
Germany, Fed. Rep. of	−0.7	−1.0	−0.6	−0.2	1.4	1.9	0.8
United Kingdom	−3.2	−0.8	0.1	0.8	4.8	4.9	3.5
Switzerland	1.6	−0.1	1.4	1.5	1.7	1.2	2.6
Japan	−3.6	−0.3	1.1	1.3	1.4	2.5	2.2

Source: Based on data from IMF, *International Financial Statistics*, various issues.

[a] Discounts and premiums are on three-month forward exchange rates (end of period in per cent per annum, based on end-of-period quotation of the currencies against the US dollar). Calculations were made on quarterly data and averaged, for the year, for 1981-1984

suggests that the rise in assets held by west Europeans was also significant.

(b) Possible factors behind the capital inflows

One current explanation for the increased attractiveness of dollar assets to foreign and national investors is the large differential between real interest rates in the United States and those in other countries. As is shown in table 2.6.6, the differential between long-term real interest rates rose sharply in 1982, when it was between 2.5 and 3.5 percentage points in favour of the United States. (Switzerland, where real interest rates have been some 6 to 7 percentage points lower than in the United States, is exceptional). However, some analysts argue that "what the investor really cares about is the nominal yield on his investment abroad, corrected for any change he expects, over the relevant holding period, in the exchange rate between the foreign currency and his home currency." [102] These expectations are not observable, but one possible indicator is the premium or discount on forward exchange rates: although this is not a very good measure of exchange rate expectations, it is considered to be more appropriate than differences in inflation rates. The nominal interest rate differentials adjusted for forward premiums or discounts are also shown in table 2.6.6. They tended to be negative in 1981-1982, but became positive in 1983 and continued to increase until the middle of 1985. The widening of these "corrected" differentials was particularly large for France, Japan and the United Kingdom. In the case of the United Kingdom the interest rate differentials corrected for expectations of exchange rate changes are much larger than the differentials for nominal and real interest rates. The opposite is true of Switzerland, where persistent expectations of an appreciation of the Swiss franc led to the "corrected" differential being much smaller than the real or nominal interest rate differential.

Irrespective of which differential is considered (nominal, real or corrected for exchange rate expectations), the picture emerging from the figures is very much the same: interest rate differentials have been in favour of dollar assets and have widened over the last few years.

In addition to interest rate differentials, other hypotheses have been put forward to explain the strong net capital inflow into the United States. One is the rise in after-tax rates of return on real capital. Actually, the increase in net capital inflows is associated with United States securities, rather than direct investment (table 2.6.4); but it is possible that an increase in the return on fixed capital could induce United States residents to borrow in financial markets in order to obtain funds for real investment.

The safe-haven motive has also been used to explain the shift of assets into dollars. Once again, the balance of payments data are not very conclusive: a large share of the increased capital inflow into the United States is accounted for by Japan and west European countries (the Federal Republic of Germany, the United Kingdom) which can hardly be qualified as unsafe. However, asset holders in "unsafe" countries may have invested in the Eurodollar market, these investments appearing in the United States accounts as inflows from west European countries. It is worth noting that these inflows, as those from Japan, are likely to be undervalued, as is suggested by the large positive statistical discrepancies in the United States capital accounts with Japan and western Europe. On the other hand, there was a significant decline in outflows from the United States to Latin America, but part of this—as mentioned already—may reflect a shift in the accounting procedures associated with the opening of IBFs. [103]

(c) The emergence of the United States as a net debtor

Regardless of the reasons for the increase in net capital inflows, they have greatly reduced the United States net international investment position: by some $200 billion between 1982 and 1985. Moreover, in the course of 1985, the United States became a net debtor for the first time since 1914 (table 2.6.7). [104] Current forecasts indicate that the United States requirements for borrowing abroad will continue to rise until the end of this decade. In 1986 the trade deficit may continue to increase due to the lagged effects of the previous dollar appreciation, while the invisible balance will deteriorate rapidly, owing to increased interest payments abroad. Even taking into account the recent exchange rate adjustments, the United States net foreign debt might be some $400-500 billion at the end of this decade and the country will continue to rely on annual net inflows of capital of more than $100 billion, an amount that corresponds to some 9-10 per cent of the savings of the developed market economies. [105] This raises the much-debated question of whether the required capital inflows will be sustained without difficulty. In fact, investors' preferences may be shifting towards non-dollar assets (perhaps in anticipation of a lower dollar or simply because portfolios are becoming saturated with dollar holdings). Since the United States can service its debt in its own currency, the problem is not one of currency unavailability, but of price adjustment: the value of the dollar may decline more sharply than in the recent past and interest rates may have to rise in order to continue to attract capital from abroad.

Some analysts, however, consider that the United States will remain for some time an attractive place to acquire assets. In the short run they do not foresee great financing difficulties. But they also forecast that "someday, foreign and domestic perceptions of *relative* investment opportunities in the United States versus those in other countries, both industrial and developing, will change". [106] Hence, even these more optimistic forecasters recognize that "adjustment, if not initiated early, is prone to occur in a traumatic fashion". They consider that the recent depreciation of the dollar, while constructive, is only a first step in correcting current imbalances.

(vi) The outlook for 1986

The short-term prospects for international trade and payments are very dependent upon developments in the financial and oil markets, which remain uncertain. Most of the currently available forecasts were carried out at the end of 1985, before the recent fall in oil prices. They are based on the usual

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[102] See R. N. Cooper in "Three Discussion Papers from the Symposium on Exchange Rates", in *Brookings Papers on Economic Activity*, 1, 1985.

[103] See footnote 99.

[104] The reported international investment position of the United States should be interpreted with caution because of under-recording of both assets and liabilities.

[105] See Morgan Guaranty Trust Company of New York, *World Financial Markets*, January 1986; also W. R. Cline, "Changing Stresses on the World Economy", *The World Economy*, vol. 8, No. 2, June 1985.

[106] Morgan Guaranty, *loc. cit.*

TABLE 2.6.7

International investment position of the United States at year's end, 1981-1985
(Billions of US dollars)

	1981	*1982*	*1983*	*1984*	*1985* [a]
US assets abroad	719.7	839.0	893.8	914.7	921.2
Official	98.5	108.3	113.0	119.6	124.2
Private	621.2	730.7	780.8	795.1	797.0
Foreign assets in the US	579.0	692.0	787.6	886.4	965.4
Official	180.4	189.2	194.5	199.0	192.9
Private	398.6	502.8	593.1	687.4	772.5
Net investment position	140.7	147.0	106.2	28.2	−44.2
Official	−81.9	−80.9	−81.5	−79.4	−68.7
Private	222.6	227.9	187.7	107.7	24.5

Source: The United States Department of Commerce, *Survey of Current Business*, various issues.

[a] First half of the year, at an annual rate.

technical assumption of unchanged exchange rates—an assumption that at present is largely questionable. Both with respect to oil prices and to exchange rate movements, the size and time pattern of future changes are very uncertain.

While further exchange rate changes may have little impact on the 1986 *trade volumes*, owing to transmission lags, these will probably be influenced by the changes which occurred in 1985. Thus, export growth in the United States is likely to resume, at a rate that may exceed 3 per cent, while the volume of imports is expected to increase by some 4 to 5 per cent, down from some 7 per cent in 1985. Before the recent fall in oil prices, a slowdown of export growth was foreseen in the major countries of western Europe, following their currency appreciation and consequent decline in competitiveness. Export growth in most of the smaller west European countries was anticipated to decelerate, except in Belgium, Denmark and Sweden. A small acceleration in imports was forecast for the Federal Republic of Germany and France, but this was expected to be offset by a slowdown in Italy and the United Kingdom. With few exceptions (Belgium, Ireland and Denmark), a deceleration of imports was also expected in the smaller countries. But if oil prices remain some 30 per cent below their levels at the time these forecasts were made, the consequent increase in real incomes will boost imports and give a new impulse to the trade of the market economies of the ECE region: import cuts by OPEC members and other net oil exporters will be more than offset by increased trade among net oil importers. As a whole, trade volumes in the market economies of the ECE region may then rise by 5-6 per cent in 1986, or by as much as in 1985.

Trade prices will continue to be weak. Prices of oil may recover somewhat from the recent collapse but, under the pressure of excess supply, they are likely to remain well below their average level in 1985. Non-oil commodity prices may recover somewhat, owing to the falling dollar: in fact, the recent decline in national currency, commodity prices in western Europe may lead to some recovery in demand. Prices of manufactures should reflect the lower inflation rates in the developed market economies. In dollar terms, however, trade prices may rise somewhat, if the value of the dollar declines further in 1986. The countries of western Europe will probably register a terms-of-trade gain, except those that are net exporters of oil (Norway and the United Kingdom). As a major exporter of manufactures, the United States may also record improved terms of trade; but Canada—where primary commodity exports are important—may face a loss.

The present pattern of *current account imbalances* is unlikely to change significantly in 1986. The current account of the United States might still be around $100 billion: the depreciation-induced improvements in the trade balance and investment income from abroad will be offset by the rise in debt service payments. In Japan and in the Federal Republic of Germany current account will continue in large surplus. In these countries, the accumulation of foreign assets has markedly improved the invisibles account and a further improvement is likely in 1986. The invisibles account should also improve for the same reason in the United Kingdom, but the current account will be affected by the terms of trade loss associated with the fall in the price of oil. The trade balances of the west European countries will probably improve somewhat: the deterioration arising from recent losses in competitiveness may be offset by gains in the terms-of-trade.

2.7 RECENT ECONOMIC DEVELOPMENTS IN SOUTHERN EUROPE

This section reviews recent developments in Greece, Portugal, Spain, Turkey and Yugoslavia. 1985 was a disappointing year for most of these countries: growth was modest, and unemployment and inflation remain much higher than in the rest of western Europe. Considerable progress has been made in correcting external imbalances, but fixed investment generally remains very weak. Output and demand changes are discussed in subsection (ii), wages and prices in subsection (iii), labour markets in subsection (iv) and the current account in subsection (v). The short-run outlook is discussed in subsection (vi).

(i) Introduction

For the last six years or so developments in southern Europe have been dominated by attempts to adjust to the consequences of the oil shocks of the 1970s. The adjustment problems have been particularly severe in these countries, most of which had serious structural problems before the oil shocks and all of them being highly dependent on imported energy. The problems were exacerbated by the relatively relaxed policies that followed the first oil shock: private and public consumption were maintained at high rates throughout most of the 1970s (chart 2.7.1) and rising current account deficits were easily financed by the plentiful supply of foreign capital at low or negative real rates of interest. Spain, Turkey and Portugal had begun to implement adjustment policies before the second oil shock occurred in 1979. This aggravated the existing problems, and the determined pursuit of tight monetary and fiscal policies in the rest of western Europe not only meant a sharp slowdown in the growth of demand for south European exports but also a major change in the possibilities of continued financing of current account deficits: real interest rates rose sharply, the supply of funds was cut back, and by 1982 several countries in the region were faced with problems in servicing their debt and maintaining an inflow of foreign funds. The countries of southern Europe had no alternative but to reduce domestic demand in order to reduce their current account deficits. In this they have been markedly successful (chart 2.7.1): from nearly $14 billion in 1980 the total current account deficit of the five countries had fallen to a little more than $1 billion in 1984 and was under $1 billion in 1985. The improvement was particularly marked in 1983 and 1984 when the economic recovery in North America and the rest of western Europe lifted total south European exports by some 10 and 12 per cent, while weak domestic demand supported by import restrictions led to modest, even negative, import growth. (Only in Turkey, where output growth was relatively high, did imports grow significantly in these years.) The total of gross foreign debt has continued to rise in Greece, Portugal and Turkey; in Yugoslavia it has stabilized and in Spain it was reduced in 1985. Debt service ratios [107] still remain high, ranging in 1985 from just under 20 per cent in Greece to some 36 per cent in Yugoslavia.

Although inflation rates at the end of 1984 were still very much higher than in the rest of Europe, governments generally expected inflationary pressures to continue to ease (albeit slightly in some cases). They also felt that public sector deficits could be contained (at least, as a proportion of GDP), and that, given the improvement in their balance of payments, there was room for some modest improvement in the rate of growth in

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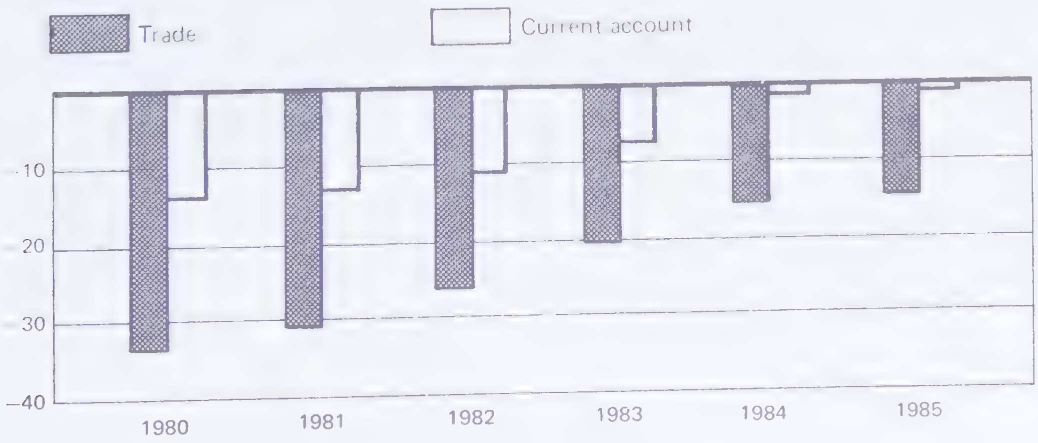
[107] Interest payments and repayment of principal as a percentage of current account receipts (including private transfers).

CHART 2.7.1

Southern Europe: the balance on trade and current accounts, 1980-1985 [a]

(Billion US dollars)

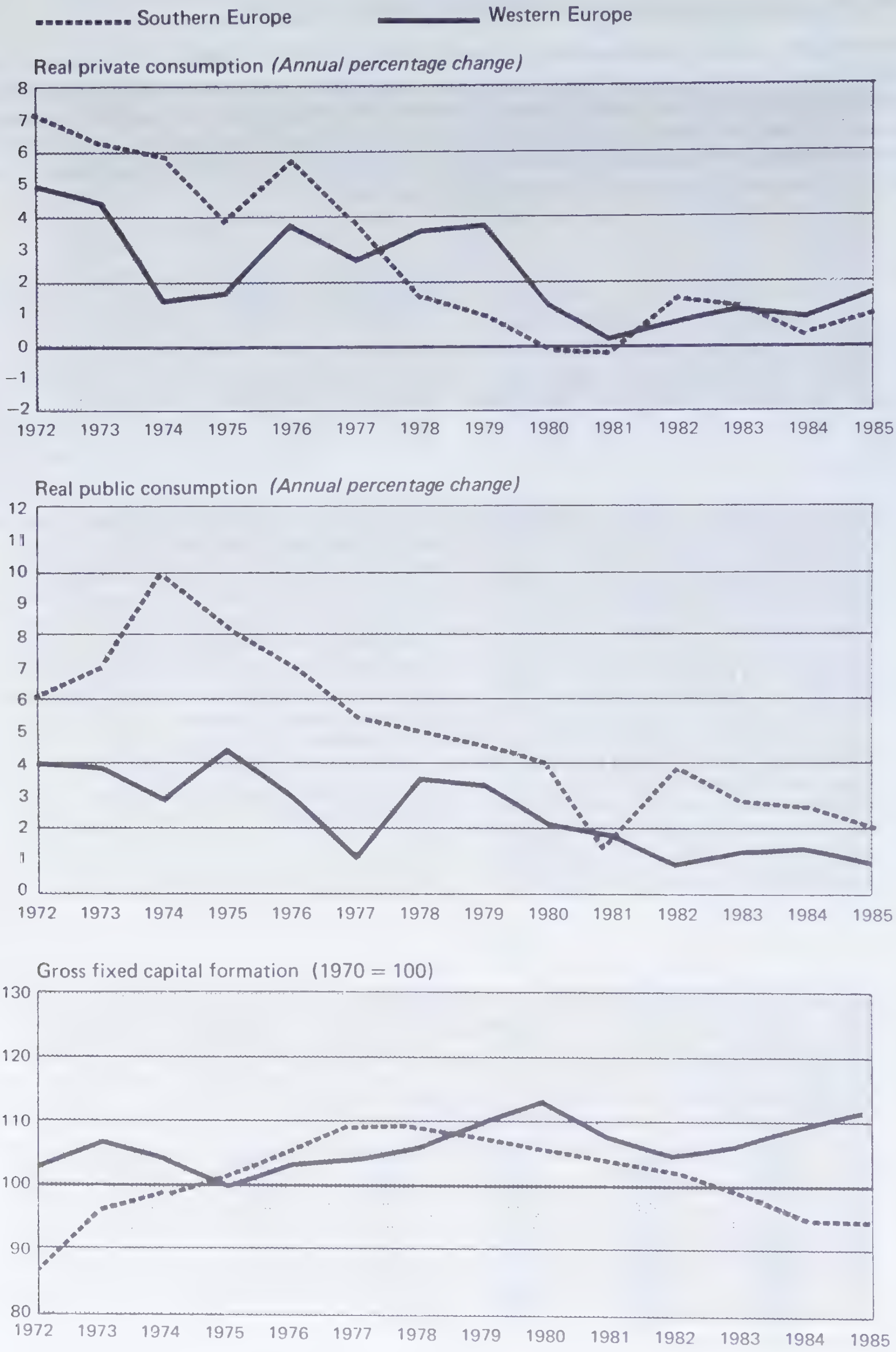


Source: As for table 2.7.3.

a Preliminary estimates for 1985, available at end-January 1986.

CHART 2.7.2

Consumption and fixed investment in southern Europe compared with the rest of western Europe, 1972-1985 [a]



Source: Statistical appendix A and as for table 2.7.2.

a As for chart 2.7.1.

1985. Whereas growth in 1984 had been largely based on rising exports (and, to a lesser extent, government consumption), governments were hoping for some recovery in domestic demand and, in particular, for a check to the decline in fixed investment. Although the adjustment programmes in southern Europe have squeezed private consumption in varying degrees from country to country and over time, the collapse of fixed investment has been almost universal: between 1982 and 1984, fixed investment rose only in Turkey—and even there it represented only a partial recovery from a 22 per cent drop between 1977 and 1980. For southern Europe as a whole fixed investment in 1984, the fifth successive year in which it had fallen, was more than 18 per cent below its level in 1979 (chart 2.7.2). The reversal of this development is now a crucial objective for policy makers in southern Europe, for without a revival of investment it is difficult to see how fundamental changes in the structure of their economies can be brought about. Developments in 1985 show only a few hesitant signs of such a revival.

(ii) Output and demand

1985 was a disappointing year for the south European countries. Total output growth was modest (about 2 per cent, in aggregate). With the exception of Portugal, GDP grew less than in 1984 and in all of them growth was less than expected at the beginning of 1985. If expectations had been fulfilled, total GDP growth would have been between 3 1/2 and 4 per cent compared with just under 3 per cent in 1984.

In *Spain* there was a recovery in domestic demand of around 2 per cent, mainly due to fixed investment and, to a lesser extent, private consumption (table 2.7.1). However, there was a sharp drop in the growth of exports and the foreign balance had a negative effect on domestic output (in 1984 its contribution had been large and positive). The fall in export growth was partly due to the relative weakness of some of Spain's main markets, viz., Latin America and the Middle East, but declining competitiveness arising from exchange rate movements also appears to have led to loss of market shares. The weakness of the economy and particularly of employment in the early months of 1985 led to the implementation of a package of stimulatory measures in April and these may have had some effect in the second half of the year when fixed investment and private consumption both improved. However, the weak performance in the first half of the year means that GDP growth for 1985 as a whole is likely to have been only 1.7 per cent,[108] well below the government's original expectations of 3 per cent. The different sectors of the economy rose more or less in line with domestic demand, including construction which started to recover after two years of decline.

A recovery in domestic demand and a declining contribution to growth from the foreign sector had also been expected in *Portugal* at the beginning of 1985. Although interest rates were reduced in late 1984, domestic demand stagnated in 1985, a reflection of the continuing effects of the austerity programme adopted in mid-1983. Real wages fell again in the first quarter of 1985 (although they may have levelled out during the course of the year) and private consumption growth was marginal. Fixed investment, instead of increasing, fell by 5 per cent, a reflection of weak output growth, high real rates of interest and cuts in public investment. There was some positive contribution to growth from public consumption and stockbuilding, but the main support came from the foreign balance where exports grew by some 8 1/2 per cent in volume and imports by less than 2 per cent. Export growth was down from 1984, reflecting weaker world demand, but Portugal's competitive position appears to have been maintained.

In *Greece* there was some strengthening of domestic demand in 1985 mainly because of public consumption (up nearly 5 per cent) and a small increase in fixed investment, the first since 1979. The rise in investment was mainly due to the public sector and to an improvement in residential investment; fixed investment in the private business sector showed no signs of recovery. The contribution of the foreign balance declined considerably as export growth decelerated and imports increased sharply. GDP in 1985 consequently grew by less than 2 per cent compared with some 2.8 per cent in 1984.

In *Turkey* growth had already been stronger than expected in 1984 and some deceleration had been expected in 1985 (although not much: 5 1/2 per cent instead of 5.9 per cent in 1984). But actual growth was much weaker (about 4 per cent), a reflection of the continuing imbalances in the Turkish economy and the government's attempts to deal with them. All the components of domestic demand slowed down: public consumption growth fell and public investment dropped 2 per cent as efforts were made to reduce the government's budget deficit. However, the deficit remained larger than foreseen and monetary policy was relatively expansionary. Inflation, which was expected to fall to 25 per cent for 1985 as a whole, remained at 45 per cent, and falling real wages slowed down the increase in private consumption. In spite of high real interest rates, private business investment was the most buoyant component of domestic demand in 1985 (up 5.5 per cent compared with 6.2 per cent in 1984). Most of this investment was in the export sector, particularly for consumer goods. The foreign balance continued to make a large contribution to growth in 1985.

Following growth of 2 per cent in 1984 the government of *Yugoslavia* originally hoped for growth of a little more than 3 per cent in 1985. However, a sharp deceleration in the growth of industrial output (partly due to the harsh winter), and falls of 7 to 8 per cent in construction and agricultural output all point instead to an increase of about 1 per cent. Domestic demand fell for the fifth consecutive year. Private and public consumption as well as fixed capital formation declined. The only support to domestic demand was stockbuilding, which was encouraged by accelerating inflation and negative real rates of interest. The shift of resources into the foreign sector continued in 1985 with exports of goods and services rising by nearly 8 per cent and imports falling. Although the positive trade balance offsets the effect of falling domestic demand on domestic output, the need to repay foreign debt implies a fall in domestically used Yugoslav national income in 1985.

(iii) Wages and prices

The south European countries still have rates of inflation which are well above those in most of the other market economies of western Europe and North America. In 1985 consumer prices in western Europe rose on average by some 5 per cent; in Greece and Portugal they increased by 19 to 20 per cent, in Turkey and Yugoslavia by some 45 and 71 per cent (table 2.7.2). Inflation in Spain is now much lower than elsewhere in southern Europe, but at about 9 per cent in 1985 it is still nearly double the average rate for western Europe. During 1985 inflation actually worsened in Greece and Yugoslavia but in Turkey and Portugal the rate fell between the end of 1984 and the end of 1985.

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[108] This is the Bank of Spain estimate for GDP growth; the National Institute of Statistics' estimate is 2.1 per cent.

TABLE 2.7.1

Southern Europe: the volume growth of GDP at market prices and the main components of demand, 1983-1985
(Percentage change from previous year)

	1983	*1984*	*1985*
Greece			
Private consumption	0.6	1.1	0.7
Public consumption	2.5	3.9	4.9
Gross fixed capital formation	–1.4	–4.7	1.3
Changes in stocks [a]	(–1.0)	(0.4)	(0.1)
Domestic demand	–0.4	1.0	1.5
Exports of goods and services	9.8	11.6	5.9
Imports of goods and services	2.6	–0.1	4.0
Gross domestic product	0.3	2.8	1.8
Portugal			
Private consumption	–1.0	–3.0	0.5
Public consumption	2.2	1.8	3.0
Gross fixed capital formation	–7.5	–18.0	–5.0
Changes in stocks [a]	(–5.7)	(–0.7)	(0.2)
Domestic demand	–7.0	–7.0	0.1
Exports of goods and services	17.7	14.7	8.5
Imports of goods and services	–7.3	–3.2	1.5
Gross domestic product	–0.3	–1.7	2.5
Spain			
Private consumption	0.7	–0.8	1.0
Public consumption	4.1	3.0	3.0
Gross fixed capital formation	–1.5	–3.2	5.0
Changes in stocks [a]	(—)	(–0.1)	(0.1)
Domestic demand	0.6	–0.8	2.0
Exports of goods and services	7.6	15.4	1.5
Imports of goods and services	–0.6	1.0	3.0
Gross domestic product	2.2	2.2	1.7
Turkey			
Private consumption	4.9	5.0	3.7
Public consumption	1.8	3.8	2.2
Gross fixed capital formation	3.0	3.1	1.1
Changes in stocks [a]	(0.4)	(0.4)	(–0.3)
Domestic demand	4.6	4.9	2.7
Exports of goods and services	8.4	30.7	20.0
Imports of goods and services	12.5	23.0	13.8
Gross domestic product	3.0	5.9	4.0
Yugoslavia			
Private consumption	–0.6	–1.0	–1.5
Public consumption	1.0	–0.2	–2.0
Gross fixed capital formation	–9.7	–9.4	–10.0
Changes in stocks [a]	(0.6)	(2.5)	.
Domestic demand	–2.6	—	–2*
Exports of goods and services	2.3	11.1	7.8
Imports of goods and services	4.8	–1.9	–0.3
Gross social product	–1.3	2.0	1*

Sources: Commission of the European Communities, *Annual Economic Report 1985-86*, October 1985; OECD, *Economic Outlook*, Paris, December 1985; Departamento Central de Planeamento (Lisbon), direct communication to the ECE secretariat; Banco de España, *Boletin Economico*, January 1986; Devlet Planlama Teskilâti, *Yillik Plân*, various issues. Federal Statistical Office of Yugoslavia, *Saopštenje*, vol. xxxix, No. 500, 27 December 1985, *Indeks*, No. 11, 1985 and direct communications to ECE secretariat

[a] Contribution to GDP growth

Inflation rates in southern Europe have been adversely affected by exchange rate depreciation and by increases in public sector prices for goods and services—both important elements in programmes designed to reduce current account and public sector deficits. In Spain and Portugal wage moderation has been an important factor in avoiding a new upward twist in the price-wage spiral. In *Spain* the government established wage norms for the public sector and expected the private sector to follow suit: real wages actually rose in 1983 but remained more or less unchanged in 1984 and 1985. Business confidence improved, particularly in the wake of the signing of the Economic and Social Pact, and profits have increased markedly. Wage moderation and the stability of the exchange rate both contributed to the fall in the annual inflation rate by more than 2 percentage points. Nominal wage growth has also moderated in *Portugal*: real wages fell in 1983 and 1984 (by 5 and 10 per cent respectively) and continued to fall in the first quarter of 1985, although for the year as a whole there is little change on 1984. In addition to wage moderation, falling international commodity prices, a slower rate of depreciation of the escudo (particularly since the dollar began to fall in February), and relatively smaller increases in administered prices have helped to lower the inflation rate from about 33 per cent in the middle of 1984 to around 20 per cent at the end of 1985. In *Greece* the

TABLE 2.7.2

Southern Europe: internal balances, 1983-1985

	1983	*1984*	*1985*
Consumer prices (annual change, per cent)			
Greece	20.2	18.5	19.3
Portugal	25.5	29.3	19.9[a]
Spain	12.2	11.3	8.8
Turkey	31.4	48.4	45.0
Yugoslavia	40.3	57.0	70.9[b]
Unemployment (per cent of labour force)			
Greece	7.2	8.0	8.3
Portugal	10.4	10.8	10.3
Spain	17.8	20.9	22.0[c]
Turkey[d]	19.2	21*	23*
Yugoslavia[e]	9.0	9.6	10.0[b]
Public Sector Deficit (per cent of GDP)			
Greece	−9.5	−10.5	−11.5
Portugal[f]	−8.8	−9.5	−11.0
Spain	−5.3	−4.7	−5.2[g]
Turkey[h]	−1.2	−4.9	−2.0
Yugoslavia[i]	−6.4*	−8.8*	−8.7*

Sources: As for 2.7.1 and Banco de Portugal, direct communication to the ECE secretariat; Banco de Bilbao, *Situacion*, several issues; Devlet Istatistik Enstitüsü, *Toptan Esya ve Tüketici Fiyatlari Aylik Indeks Bülteni*, various issues, Merkez Bankasi, *Yillik Rapor*, various issues.

[a] January-November 1985 over same period of 1984.

[b] January-October 1985 over same period of 1984.

[c] First half.

[d] Includes estimates of disguised unemployment in agriculture.

[e] Officially registered unemployment.

[f] Excludes public enterprises.

[g] Banco de España estimate.

[h] Consolidated deficit on cash basis.

[i] Net of transfers among public sector units.

rate of inflation in 1985 was around 19 per cent, some 3 points higher than the government's target for the year. Fiscal and monetary policies were expansionary and the effects of a depreciating currency on domestic prices were amplified by the system of wage indexation which has kept the rise in wages ahead of prices by about 3 per cent a year. In October 1985 the government's new stabilization programme included a modification of the indexation system: from the beginning of 1986 wages are to be adjusted every four months on the basis of the official forecast of the inflation rate *net* of import prices. The government's aim is to bring about a decline of at least 5 per cent in real wages in 1986.

In *Turkey* the deceleration of the inflation rate towards the end of 1984 was short-lived. Frequent increases in public sector prices, the effects of the continued depreciation of the lira (particularly on energy prices), as well as the introduction of value added tax (at 10 per cent) in January, all helped to maintain a rapid rate of increase in consumer prices in 1985. The government's original target was to lower the inflation rate from around 48 per cent in 1984 to 25 per cent, but the outturn for 1985 was 45 per cent. There was some deceleration during 1985, the third quarter rate being some 17 points below that in the first quarter; however there was again a deterioration in the fourth quarter.

In *Yugoslavia* inflation accelerated sharply in 1985, with an average annual increase of over 70 per cent. With only a brief interruption in 1982, the Yugoslav inflation rate has accelerated every year since 1979. Although monetary policy (in terms of monetary targets for M1) has been fairly tight, bank credit and trade credits extended between enterprises have expanded sharply, while cost pressures have been worsened by the devaluation of the dinar.

(iv) Employment and unemployment

The austerity policies followed in most of southern Europe in recent years have led to sharp falls in the level of employment and rising unemployment rates. Although the measurement of unemployment in southern Europe is subject to many qualifications which render precise international comparisons difficult, it is clear that unemployment rates in most of these countries are generally higher than in the rest of western Europe. In Spain and Turkey unemployment rates were over 20 per cent in 1985 and in the other countries of southern Europe the rate was between 8 and 11 per cent (table 2.7.2). These figures are not internationally comparable: in Turkey, for example, the rate includes an estimate of disguised unemployment in agriculture, while in Yugoslavia the figure refers only to the officially registered unemployed.

In *Spain* employment has fallen steadily since 1975, with very large declines in industry and the construction sector (employment fell by about 25 per cent in these two sectors between 1974 and 1982). In 1984 employment again fell sharply (some 4 per cent), partly because of restructuring in iron and steel, and in shipbuilding. Data for 1985 suggest that employment started to rise in the second half of the year, owing to the recovery of output in the construction sector.

The unemployment rate has risen steadily from about 3 per cent in 1975 to nearly 17 per cent in 1982; it passed the 20 per cent mark in 1984 and in the second quarter of 1985 may have reached some 22 per cent. There may have been a slight fall in the second half of the year. Unemployment among the young is particularly high: the rate for youths was nearly 45 per cent in 1984 and is expected to have risen further in 1985.

Employment in *Portugal* fell by 2 and 1 per cent in 1983 and

1984, the largest decline (5 and 6 per cent in the two years) being in the construction sector. In 1985 the recovery of output may at least have checked the decline. The rise in unemployment between 1982 and 1984 is smaller (some 1.5 percentage points) than might have been expected given the fall in employment. This may reflect the aging of the population with a larger number of workers retiring, but it is likely that some emigration has also occurred. Construction workers, who have been most affected by the decline in employment, find it relatively easy to find work abroad (albeit not always legally). At the end of 1984 the unemployment rate was just under 11 per cent but it had fallen to 9.6 per cent at the end of 1985. The rate of youth unemployment at the end of 1984 was around 25 per cent.

In *Turkey* the labour market has been deteriorating since 1980 and unemployment continued to rise in 1985. With the population of working age increasing by about 2.5 per cent in 1985 and employment falling by some 4 per cent, the unemployment rate is now between 20 and 25 per cent of the labour force. (There are no figures for total unemployment in Turkey: the available estimates are based on the numbers registered as unemployed in the main urban areas.) In *Greece* the unemployment rate in 1984 and 1985 has remained fairly stable at between 8 and 8.5 per cent, mainly because of a large increase in public sector employment. In *Yugoslavia* employment outside agriculture has been increasing by 2-3 per cent a year since 1980, a reflection, to a large extent, of the government's failure to adopt sterner measures against inflation. (Employment in agriculture, which accounts for a little over one fifth of the labour force, fell by about 13 per cent between 1979 and 1984, but appears to have stabilized in 1985.) However, with the sharp deceleration in output growth, unemployment has been accelerating and the average rate for 1985 is estimated at some 10 per cent compared with 9.6 per cent in 1984. These figures refer to registered unemployment only.

TABLE 2.7.3

Southern Europe: current account and foreign debt, 1983-1985

	1983	*1984*	*1985*
Current account balance			
In billion US dollars			
Greece	−1.9	−2.1	−3
Portugal	−1.6	−0.5	0.1
Spain	−2.5	2.3	3.0 [a]
Turkey	−1.7	−1.4	−0.8
Yugoslavia	0.3	0.5	0.7*
As a per cent of GDP			
Greece	−4.7	−5.5	−8
Portugal	−7.0	−2.5	0.4
Spain	−2.3	1.4	1.4
Turkey	−4.3	−2.8	−1.8
Yugoslavia	0.8	1.7	1.6
Foreign debt			
Gross foreign debt (billion US dollars)			
Greece	9.5	12.4	15.6
Portugal	14.5	14.9	16.0 [b]
Spain	29.5	29.6	26.6*
Turkey [c]	18.4	20.8	23.5
Yugoslavia	20.1	20.2	19.6
Debt service ratio (per cent) [d]			
Greece	17.9	20.1	19.4
Portugal	27.1	35.1	..
Spain	19.1	22.8	22.6
Turkey	27.4	23.0	23.7
Yugoslavia	26.3	28.6	35.0

Sources: As for table 2.7.2.

[a] Banco de España estimate.

[b] July.

[c] Includes IMF loans and foreign exchange accounts in Turkey.

[d] Interest and amortization as per cent of current account receipts (including private transfers).

(v) Current accounts and foreign debt

In the wake of the second oil shock and influenced by relatively expansionary policies, the south European countries found themselves with very large current account deficits and rising burdens of foreign debt. The reduction of these deficits was the major policy objective of most of the adjustment programmes introduced in the early 1980s and, in general, it is the one objective towards which considerable progress has been made (table 2.7.3 and chart 2.7.1). Much of the improvement occurred on the trade account: imports declined or slowed down under the effect of import restrictions and the lowering of private consumption and fixed investment, while exports grew rapidly (especially in 1984) in response to the recovery in world import demand and to gains in competitiveness. The recovery in the rest of western Europe has also led to increased tourism which has benefited the invisibles account of southern Europe, particularly in 1984 and 1985.

In *Spain* the current account has improved considerably, from a $4 billion deficit in 1982 (2 1/2 per cent of GDP) to an annual surplus of almost $3 billion in 1984 and 1985 (1.4 per cent of GDP). Data for the first eight months of 1985 show some deterioration in the trade balance as exports have weakened significantly following the slowdown in world demand (some of Spain's major markets, such as the Middle East and Latin America, have been especially weak) and imports have risen a little in response to the recovery of domestic demand. The trade balance improved towards the end of 1985 and the current account surplus for the whole year was larger than in 1984: income from tourism was up and the outflow of net capital income abroad (much of it being interest payments on the foreign debt) fell slightly. The improved current account has enabled the government to reduce Spain's foreign debt: at the end of 1985 total debt is estimated at about $26.6 billion, $3 billion less than a year earlier.[109] However, the ratio of debt servicing to current receipts, which was about 23 per cent in 1984, does not appear to have changed in 1985.

In *Portugal* the correction of the current account deficit, the main policy objective in 1983 and 1984, has been achieved more quickly than initially expected: from a deficit of some $3.2 billion in 1982 (or 13.5 per cent of GDP) the current account moved to a small surplus ($98 million) in 1985. As in Spain, most of the improvement was on the trade account and reflects both the improvement in world import demand and improved export competitiveness, on the one hand, and the sharp fall in domestic demand and the import surcharge on the other. The current account was also helped by increased receipts from tourism, especially in 1984, but unlike Spain, Portugal has a deficit on the services account and is more dependent on the inflow of emigrants' remittances. These remittances, most of which come from western Europe, fell (in dollars) during the recession, but there was probably an increase in 1985, partly because of the depreciation of the dollar.

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[109] ECE secretariat estimates based on partial data published by Banco Central and Banco de Bilbao.

Portugal's foreign debt has continued to rise: at mid-1985 it is estimated to have reached some $16 billion compared with about $15 billion at the end of 1984. This increase partly reflects the depreciation of the dollar since a considerable part of Portugal's debt is denominated in other currencies (mainly west European and the yen). The success of its stabilization programme has enabled Portugal to obtain better terms in the financial markets and to restructure its debt: the proportion of short- term debt in the total has fallen from about 28 per cent in 1982 to some 18.5 per cent in 1985. However, in spite of the improvements in the current account, the ratio of debt service payments to current account receipts deteriorated sharply in 1984 to some 35 per cent: this was mainly because of a bunching of repayments of principal, due in turn to the end of a period of grace for a large part of the medium- and long-term debt.

The improvement in *Turkey's* current account has been under way for some years under the stabilization and liberalization programmes inaugurated in January 1980. In 1985 the deficit fell to around $750 million, nearly half that in 1984 and the first time since 1974 that it has fallen below $1 billion. Despite the phasing out of interest rate and other subsidies, merchandise exports increased strongly in 1985 (35 per cent up on 1984 in the third quarter), while import growth slowed. Turkey has traditionally had a surplus on invisibles—in 1985 it increased to some $2 billion, mainly because of increased income from tourism and from an increase in emigrants' remittances (the latter encouraged by high real interest rates on foreign exchange accounts in Turkish banks). Turkey's foreign debt has risen by about $2 billion a year for the last decade, reaching some $23.5 billion [110] at the end of 1985. The proportion of short-term debt in the total has increased sharply (from 23 per cent in 1984 to 30 per cent in 1985), mainly because the real cost to industry of domestic borrowing was higher than borrowing abroad. Interest payments on the foreign debt in 1985 were about the same as in 1984 (about $1.5 billion), but total debt servicing costs rose to about 24 per cent because of repayments of principal: Turkey is now facing a hump in its debt repayments which will start to level out in 1989.

In contrast with the other countries of southern Europe, the current account of *Greece* deteriorated sharply in 1985—from some $2 billion in 1984 (5.5 per cent of GDP) to an estimated $3 billion (some 8 per cent of GDP) at the end of 1985. The merchandise trade deficit increased as export growth slowed (due to weaker foreign demand and deteriorating competitiveness) and imports accelerated. On the invisibles account only income from tourism increased significantly in 1985 (as in 1984): emigrants' remittances and income from shipping continued to decline and debt servicing increased. The deterioration of the current account in 1985 was aggravated by leads and lags caused by the expectation for much of the year of a devaluation of the drachma (it was eventually devalued by 15 per cent in October). The deterioration of the Greek invisibles surplus is however a longer-run phenomenon: in absolute terms it has been falling since 1980, and as a proportion of the merchandise trade deficit it has declined from over three quarters in 1978 to 55 per cent in 1985. The Greek merchant fleet has been heavily cut and earnings from shipping were halved between 1980 and 1985. Emigrants' remittances also fell by nearly 15 per cent in the first half of 1985 (over the first half of 1984) [111] Greece's foreign debt has increased considerably since 1978 and rose still further in 1985. At the end of 1984 it was some $12.4 billion [112] ($4.5 billion in 1978) and by the end of 1985 had reached an estimated $15.6 billion or about 40 per cent of GDP. In 1985 the debt service ratio was just over 19 per cent, slightly lower than in 1984. It is estimated by the Bank of Greece that over the last ten years, on average, three quarters of foreign borrowing has been used for debt servicing.

Yugoslavia, and Portugal, along with Spain is in current account surplus. In 1980 the current account was in deficit by about $2.3 billion and moved into surplus ($0.3 billion) in 1983 and 1984 ($0.5 billion). In the first half of 1985, however, imports rose considerably faster than exports and the current account was in deficit. But in mid-year a major export drive was launched, imports were cut, and for 1985 as a whole the trade deficit (in US dollars) is likely to have been some $300 million less than in 1984. The invisibles balance has traditionally been in surplus although it has fallen sharply in the last five years. In 1985 increased income from tourism was offset by higher interest payments abroad and a decline in other service income, so that the invisibles balance is estimated at some $2.2 billion, marginally less than in 1984. The current account surplus for 1985 is estimated at some $800 million, about $300 million higher than in 1984. The current account surplus of the last three years has not been sufficient to service Yugoslavia's foreign debt, of about $20 billion, without rescheduling. The debt service ratio was about 29 per cent in 1984 and about 36 per cent in 1985. In September 1985 terms were agreed for a multi-year rescheduling of $3.5 billion of commercial bank debt falling due between 1985 and 1988.

(vi) The short-run outlook

The outlook for GDP growth in southern Europe in 1986 is at best for a modest improvement on 1985, and even this will not be universal. Aggregate GDP growth for the five countries is expected to be around 3 per cent, compared with about 2 per cent in 1985. In Greece GDP is likely to fall (by 1/2 to 1 per cent) as a result of the latest stabilization programme (of October 1985) designed to curb accelerating inflation and reduce the budget and current account deficits. In Spain growth of around 2 per cent is forecast and in Portugal 3 to 4 per cent. In Turkey GDP is expected to rise by around 5 per cent. In Yugoslavia the authorities are aiming for at least 3 per cent growth in social product, based on a small improvement in the growth of industrial production (to 3 per cent) and a recovery of agricultural output. The realisation of these official forecasts will largely depend on developments in the main export markets of the countries in question.

Although there may be increasing pressures for still faster growth in countries where unemployment is high and rising and where real incomes and private consumption have fallen sharply in recent years, government policies remain cautious. They are designed to preserve the adjustments already made and to take into account continuing constraints. The forecasts mentioned above generally incorporate modest improvements in private consumption (although a sharp fall in Greece), a deceleration in the growth of public consumption, but a marked improvement in fixed investment. As for the foreign balance, the volume growth of exports of goods and services is expected to be matched or exceeded by the growth of imports: consequently there will be no significant support to growth from net exports (except in Greece). Current account deficits are likely to be reduced in Greece and Turkey; in Spain and Yugoslavia larger surpluses are forecast. Portugal expects a deterioration (to some $0.7 billion) in the current account deficit as a consequence of a faster growth of domestic demand.

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[110] Includes foreign exchange accounts with Turkish banks in Turkey.

[111] Another declining inflow in the Greek balance of payments is "autonomous private foreign capital", most of it originating from Greek citizens overseas. Composed of entrepreneurial capital for productive investment, investment in real estate and deposits of foreign currency in Greek banks, this flow was equivalent to almost 120 per cent of the current account deficit in 1978 but for less than two fifths in 1985.

[112] OECD and BIS estimates, which include foreign exchange deposits in Greek banks as well as military debt, put the total at $18.7 billion at the end of 1983.

Economic policies in southern Europe will in general remain fairly restrictive in 1986: inflation and the balance of payments are the principal concerns and the outlook offers little hope for an improvement in the unemployment situation. Inflation rates should fall in most of southern Europe in 1986 but rates are expected to remain in double digits (except in Spain) and very much higher than in the rest of western Europe. The average annual rate of increase in Greece is likely to be higher than in 1985, mainly as a result of the 15 per cent devaluation in October 1985—the effects should taper off during the year with the inflation rate down to some 16-17 per cent by end-1986. In Spain and Portugal the introduction of value added tax will raise prices in the early part of 1986 and this could check the decline in their inflation rates. The inflation rate in Turkey is targeted at 25 per cent, as in 1985. In Yugoslavia the official objective is to halve the rate of inflation to about 40 per cent. Unlike the rest of western Europe, inflation thus remains a major problem in the south European countries.

In *Spain*, where short-run adjustment has been relatively successful, priority is still given to the control of inflation and the preservation of external balance: fiscal and monetary policies remain tight while efforts are made to improve corporate profitability and private investment. Although *Portugal* adopted a relatively expansionary stance (in November 1985), policy is conditioned by the need to avoid endangering the progress made towards internal and external balance: the main policy objectives are lower inflation and an upturn in fixed investment. In *Greece* 1986 will be a year of austerity as the government tackles the central problem of inflation by substantially reducing the rate of growth of wages and by reductions in the public sector deficit. The control of the public sector is a continuing problem in *Turkey*: in 1986 new and increased taxes will be used to boost government revenues, since further scope for holding back public expenditure is limited. The export-oriented policies of the Turkish government will continue, although the depreciation of the exchange rate (as in the rest of southern Europe) is a source of pressure on the domestic inflation rate. Policy makers in *Yugoslavia* are faced with considerable problems of internal imbalance. The authorities have set ambitious targets for 1986: they are seeking a faster rate of output growth, increased employment and productivity, a reduction in the trade deficit, a larger current account surplus and a sharp fall in the rate of inflation. Progress towards these objectives will depend greatly on the implementation of economic reforms. At the end of 1985 legislation to complete the first phase of the long-term stabilization programme, adopted in 1983, was passed and the medium-term development plan for 1986-1990 was approved.

Although the austerity programmes of the last few years have been successful in reducing or eliminating the huge external deficits that followed the second oil shock, the current account remains a constraint on faster growth in most of southern Europe. In 1986, it is true, there are a number of factors which should continue to favour the growth of export earnings: world import demand should grow by some 4 to 5 per cent, and continued growth in western Europe should lead to higher income from tourism and an increase in emigrants' remittances; and for some countries the improvements in competitiveness should carry forward into 1986. But structural bottlenecks in southern Europe mean that growth generally has a high (and relatively inelastic) import content: this is true of investment and maybe intermediate goods, especially energy, and even food in the case of Portugal. Moreover the collapse of fixed investment in southern Europe [113] implies that little progress has been made in eliminating these bottlenecks: the area's vulnerability to external shocks is still very great.

Given the rapid growth of exports in the last three years and the fall in fixed investment, it is likely that the scope for further increases in south European exports, particularly of manufactures, is not very large. In the circumstances described, a significant improvement in south European growth rates would seem to imply some deterioration of their current accounts: how far this could go would very much depend on whether the international banks and other holders of south European debt will interpret such a deterioration as a prelude to higher investment.

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[113] Gross domestic fixed capital formation in southern Europe in 1985 was about 22 per cent below the level of 1979 (in Yugoslavia the fall was over 40 per cent).

2.8 MONETARY POLICY IN THE 1980s IN THE LARGER MARKET ECONOMIES

Introduction

The changes in monetary policy since the late 1970s, which are the subject of this note, should be considered against the background of developments in the environment in which such policy has had to operate. In particular, there has been a widespread reconsideration of the case for *laissez-faire*, in the sense of a questioning of whether previously accepted exceptions are useful. Many service industries (e.g., transport) which previously had been thought to require state regulation have become candidates for deregulation and, in particular, virtually all financial services have been subject to close scrutiny from this point of view. The traditional view of financial services is that they require strict regulation to prevent imprudence and fraud, to impose specialization (and thereby to prevent possible conflicts of interest), to prevent an excessive expansion of credit and to control international capital movements. All these arguments for regulation are now disputed. This change in the intellectual climate has been seized on by banks and security traders as support for the abolition of regulations which they have come to consider as detrimental to their interests.

There is also a widespread feeling that unemployment, rather than inflation is the major problem for economic policy. This has diminished somewhat the popular appeal of monetarism, which in the 1970s had been seen primarily as a remedy for inflation. There has subsequently been a revival of interest in Keynesian remedies for unemployment. Although monetarism was never embraced whole-heartedly in official circles (partly because its prescription of simple rules, as against discretion, diminished the role of officals), the monetarist approach commanded respect in the 1970s in that it was correct in foreseeing inflation. But the reputation of monetarist forecasters did not survive very far into the 1980s in either of the countries (the United States and the United Kingdom) where its influence had been greatest.[114] The standing of monetarism was further influenced by the fact that the policy of leaving the exchange rate to be determined by market forces, as applied by the United States and, for a short period by the United Kingdom, led to considerably bigger swings in real exchange rates than had been anticipated.

The five countries to be considered in this note (France, the Federal Republic of Germany, Italy, the United Kingdom and the United States) have much in common from the point of view of monetary policy. They are all big industrial countries and all members of the "Group of Ten"; they are also members of the OECD's Working Party No. 3 and their central bank Governors meet in Basle each month. All five accept the obligations of the IMF's Article VIII, and hence are committed not to impose exchange controls on current account transactions. Moreover, in all of them, monetary policies include published targets for the growth of one or several monetary aggregates.

Yet alongside these important similarities there are also differences, especially between the United States, the United Kingdom and the Federal Republic of Germany on the one hand, and France and Italy on the other. The former three have in common the following features which differentiate them from the latter two:

(1) all three have dispensed with exchange controls on capital, as well as on current transactions, and with other regulations having equivalent effect;

(2) in consequence, they no longer impose seriously restrictive regulations on banks and financial markets, lest this should drive business off-shore, and in any case they are all firmly committed to deregulation;

(3) they have no commitment to exchange rate parities between their respective currencies;

(4) their currencies are in widespread international use, both as reserve currencies and also in the private sector; and

(5) their central banks and governments have all opted to support the development of the international business of their respective financial centres and have been prepared to tolerate the consequential exposure of their currencies to considerable speculative pressures in the foreign exchange market.

France and Italy, on the other hand, have in common their retention of controls on international capital movements and their membership of the EMS Exchange Rate Mechanism (the ERM). They also have greater recourse, especially in France, to regulations imposed on banks for the implementation of monetary policy.

The Federal Republic of Germany is of course also a member of ERM, but her role in the mechanism has to be distinguished from that of her partners. Although all the ERM members frequently intervene in dollars, the responsibility for a common dollar policy is very much delegated to the Federal Republic. The dollar/DM market is by far the largest dollar market in the ERM area and, at present, there is no practical alternative to indirect co-ordination of ERM members' dollar exchange rates through the Bundesbank.

This view of the Federal Republic of Germany's role in the ERM is supported by the fact that the Federal Reserve negotiates with the authorities in the Federal Republic on matters relating to the dollar/DM exchange rate as though the dollar value of the DM were a proxy for the dollar value of the ERM currencies as a whole. Moreover the Bundesbank has a special relationship with the Federal Reserve in that not only does it use the US dollar as its main intervention currency, but the Federal Reserve reciprocally uses the DM as its main intervention currency. On the other hand the closer relationship with France in the last few years may suggest some change in the Federal Republic's priorities as between her exchange rate with the dollar and her commitment to minimizing changes in ERM parities.

The criteria by which the five countries discussed here may be divided into two groups were less clear-cut in the 1970s:

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[114] "In the autumn of 1983, prominent monetarist economists forecast that the (US) economy would move into recession in the first half of 1984 and that the inflation rate would accelerate sharply in the second half. In the annals of economic forecasting there can be few forecasts with such large misses", Frank E. Morris, "Rules plus Discretion in Monetary Policy", *New England Economic Review*, Sept/Oct 1985, p. 6. Mr. Morris is President of the Federal Reserve Bank of Boston. In the United Kingdom, the monetarists' forecast of continuing rapid inflation in the 1980s, based on the rapid growth of the money stock, was discredited by the actual course of events.

(1) the United States had strict regulations on capital outflows until January 1974 and the United Kingdom until October 1979, while up to March 1981 the Federal Republic still regulated capital inflows, initially imposed to moderate the flight from the dollar into the DM in 1978 and 1979;

(2) deregulation in the United Kingdom is a phenomenon of the 1980s: as recently as 1979 there were extensive regulations (none now in operation) imposed for monetary policy purposes.[115] In the United States also, deregulation began in earnest only in the 1980s. The Depository Institutions Deregulation Act of 1980 provided for the phasing out of the Regulation Q ceilings on deposit rates, the Credit Control Act of 1979 was not invoked as from July 1980, the Monetary Control Act of 1980 greatly simplified the reserve ratios imposed on banks,[116] while the authorization of International Banking Facilities in 1982 exempted US banks from virtually all monetary-policy regulations so far as international transactions are concerned.[117] In the Federal Republic of Germany the Bundesbank has never imposed quantitative ceilings on bank lending, but up to 1967 interest rates were subject to administrative controls. Before the mid-1970s its traditional instruments of liquidity management were variations in minimum reserve ratios and rediscount quotas, but subsequently both instruments were used less frequently:[118] instead, there was increased reliance on official transactions in securities and on lending through the Lombard window and in the interbank market;

(3) membership of the EEC exchange rate arrangements (the "snake" in 1972-1979 and the ERM subsequently) has not been constant. On the one hand France and Italy, though now strongly committed to the ERM, left the "snake" arrangements on several occasions. On the other hand the United Kingdom was temporarily a member of the "snake" in 1972 but is not at present a member of the ERM.

These remarks emphasise the fact that monetary policy can change rather rapidly, in respect both of its objectives and of the instruments by which these objectives are pursued. The following subsections attempt to identify the main developments in the first half of the 1980s, bearing in mind that they manifest themselves unevenly between the five countries being considered, and especially between the United States, the United Kingdom and the Federal Republic of Germany on the one hand and France and Italy on the other.

(i) Policy objectives

The policy objectives pursued by monetary authorities are almost always specified in terms of *intermediate* objectives, such as monetary aggregates, interest rates and exchange rates; hence the evolution of monetary policy in different countries has to be described in terms of such objectives, rather than ultimate objectives such as growth or economic welfare.

Since the late 1970s, the changing emphasis on different intermediate objectives has had two main aspects:

(1) the de-emphasizing of commitments to published targets for monetary aggregates, in favour of increased discretion by the monetary authorities to react to prevailing circumstances on the basis of their diagnosis of the current situation;

(2) the increased readiness of monetary authorities to be guided in their decision-making by the *prices* registered in the financial markets (especially by interest rates and exchange rates) no less than by the level of monetary *aggregates*.

(a) Monetary targets and alternative objectives

The Federal Republic of Germany has traditionally adopted a pragmatic attitude to targeting monetary aggregates. In evidence to a British Parliamentary committee on 25 October 1982, Dr. Otmar Emminger, then recently retired from the Bundesbank, said:

"We have never believed that one could be a slave of monetary targets over a short period, say three months or six months, or even one year, if other very important considerations come into conflict with that. So, we have played it in such a way, for instance, that (to give a concrete example) when the change in exchange rates seemed to damage our domestic economy or our stability and so on, then we looked more to the change in exchange rates than to the money supply. However, we always tried not to get too far away from our monetary target ..."[119]

A change in United States targeting procedures was decided upon at the February 1983 meeting of the Federal Open Market Committee (FOMC) and arose from the legal authorization in 1982 of money market deposit accounts (MMDAs) and the introduction in January 1983 of SuperNOW (Notice of Withdrawal) accounts with interest at market rates but with unlimited checking facilities. Both these developments were thought by the FOMC to distort the recorded totals of the Federal Reserve's key monetary aggregates, M1 and M2, and this was held to justify much more flexible targeting procedures.[120] However, there is evidence that the United States authorities had already recognised in 1982 the risks inherent in a rigid adherence to money-stock targets.[121] Also a change made in the autumn of 1982 in open market dealing procedures made policy more discretionary.[122]

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[115] The main change in United Kingdom arrangements was made by the Bank of England on 20 August 1981. For a list of the new arrangements see *Midland Bank Review*, London, Summer 1982, p. 21. A list of the previous regulations, one of which, relating to instalment credit, survived until July 1982, is given in *Midland Bank Review*, Summer 1979, p. 16.

[116] See *Federal Reserve Bulletin*, November 1981, table A.8.

[117] The IBF arrangements were of minor significance; they merely permitted the US banks to do in New York (and other US centres) what they had for many years been doing off-shore.

[118] Dr. Hermann-Josef Dudler, in Paul Meek (ed.), *Central Bank Views on Monetary Targeting*, Federal Reserve Bank of New York, 1983, p. 19.

[119] Minutes of Evidence (Q.820) of the House of Commons Treasury and Civil Service Committee, HMSO, 15 March 1983.

[120] On the background to these changes see Federal Reserve Bank of Kansas City, *Economic Review*, December 1983, pp. 15-17.

[121] As the President of the Federal Reserve Bank of Boston recently explained: "In three out of the past four years, the FOMC has either set aside the M1 target (1982) or rebased the target on the second quarter level (1983 and 1985). Only in 1984 did the original target set for M1 prove to be compatible with a reasonably acceptable outcome for the nominal GNP. This fact speaks volumes about the suitability of M1 as a target for monetary policy", Frank E. Morris, *New England Economic Review*, Sept./Oct. 1985, p. 6.

[122] After the volatility of the period October 1979 to the fall of 1982 the automaticity of reserve-targeting was greatly reduced. "Changes in overall reserve positions of depositing institutions since the fall of 1982 largely have reflected deliberate policy judgements rather than an automatic response to deviations of monetary aggregates from present target paths", Henry Wallich, "Recent Techniques of Monetary Policy", Federal Reserve Bank of Kansas City, *Economic Review*, May 1984. See also Brian Tew, *Federal Reserve Open Market Operations*, Loughborough University Banking Centre Research Paper No. 17, September 1985.

The United Kingdom authorities seem to have lost confidence in the chosen monetary aggregate for targeting purposes, sterling M3, even before the Federal Reserve questioned theirs. In 1979 M3 was racing ahead of its targeted upper limit and the authorities reacted by raising money market rates—eventually, on 15 November, to a record 17 per cent. But although M3 continued to grow well above its target in 1980, monetary stringency was relaxed and money market rates allowed to decline. As the Chancellor of the Exchequer subsequently explained (15 July 1985) to a Parliamentary Committee:

> "Right from the word go, sterling M3 behaved in a way which obliged us, as I made clear on previous occasions before this Committee, to take decisions on interest rates which clearly were not warranted by looking at sterling M3 alone. That was particularly the case in 1980 and 1981." [123]

As early as October 1980 the Governor of the Bank of England was de-emphasising the role of M3. [124] The United Kingdom authorities reacted to the misbehaviour of M3 by experimenting with other monetary aggregates. In the United Kingdom budget of 1982 the target range for M3 was raised from 6-10 per cent to 8-12 per cent and made to apply also to a smaller aggregate M1 and a larger aggregate PSL2. [125] The widespread reaction of the financial markets to the adoption of three targets was that none of them was henceforth to be taken very seriously, and this view was reinforced in 1984 when the M1 and PSL2 targets were dropped and yet another target, M0 (effectively, the outstanding stock of banknotes), was introduced.

Along with the diminishing reliance placed on monetary aggregates in the United Kingdom came an increasing concern for the sterling exchange rate. In September and October 1981 the Bank of England intervened in the money market to raise interest rates by some 4 percentage points, in a successful attempt to hold the sterling exchange rate against selling pressure in the market. Something similar may have happened on 26 November 1982 and 12 January 1983, but in these cases the initiative was taken by the clearing banks and the Bank of England followed. There were similar episodes in May and July 1984: in July the clearing banks raised their base lending rates, in two stages, from 9.4 per cent to 12 per cent, increases which were endorsed by the central bank. By the beginning of 1985 short- term rates had eased to 9 1/2 per cent, but a weakening pound provoked a rise of one per cent in base rate on 11 January—a rise which was later endorsed by the Bank of England by an equivalent increase in the rate on its own money market transactions. Then on 14 January the Bank increased rates to 12 per cent, and a further rise to 14 per cent followed on 28 January.

It is therefore clear that since the latter part of 1981 the United Kingdom authorities have been prepared to adjust the stance of their monetary policy so as to support the exchange rate, more or less irrespective of the growth of the money stock in relation to its target. In his budget speech on 19 March 1985 the United Kingdom Chancellor of the Exchequer displayed little confidence in either M0 or £M3, and said that he had "repeatedly argued that it is necessary to take the exchange rate into account in judging monetary conditions. There is no mechanical formula which enables us to balance the appropriate combination of the exchange rate and domestic monetary growth to keep financial policy on track. But a balance still has to be struck ..."

In considering the use of monetary and/or credit targets in France and Italy it has to be remembered that such targets are of only secondary importance in these countries, as their adherence to ERM parities since 1979 has mainly determined the setting of their monetary stance, more or less irrespective of the behaviour of their monetary aggregates in relation to their targeted values.

In the case of France, financial innovations have made it increasingly difficult to interpret conventionally defined monetary aggregates, including the preferred M2R (cash in circulation plus French residents' sight and deposit accounts). To deal with this problem the preferred target variable, as from 1986, will be M3, which includes deposits held with the large, state-controlled savings bank network and deposits with mutual funds. Though M3 will henceforth be the target variable, the authorities will also monitor the narrower aggregates M1 and M2, as well as a wider measure of liquidity, L.

The Italian target variables are total domestic credit [126] and the monetary aggregate M2 (currency in circulation plus bank deposits). M2 was chosen as the best money-stock target because in Italy it is difficult to identify M1 (transactions balances) since traditionally all bank deposits are interest-bearing. Moreover the Italian M2 (like the British M3 and the French M2R) has the advantage of being readily reconcilable, statistically, with the sum of bank credit extended to the public and private sectors. The only alternative to M2 for targeting purposes in Italy would have been the wider concept M3 which (like the British PSL2 and the French L) purports to take in almost all assets of a high degree of liquidity. However, though the Italian M3 is monitored, it is not used as an official target.

The Italian M2, like monetary aggregates in other countries, has been distorted by financial innovation: in particular the ratio of M2 to GDP fell sharply between 1979 and the first half of 1982, since when it has been more stable.

To summarize the discussion so far: the de-emphasising in the 1980s of commitments to published targets for monetary aggregates arose from two main considerations:

(1) it became increasingly difficult for monetary authorities to find a target variable (and in particular a monetary aggregate on *any* definition of "money") which they were prepared to rely on as a measure of the stance of monetary policy (and especially as a reliable measure of inflationary pressure). The shortcomings of monetary targets were frequently attributed to financial innovation, but this may not be the sole explanation;

(2) concern for the stance of monetary policy often had to take second place to the concern for the exchange rate. This has

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[123] Minutes of Evidence (Q.299) of the House of Commons Treasury and Civil Service Committee, HMSO, 22 July 1985. This quotation shows that the Chancellor, Mr. Lawson, had lost faith in M3 long before his Mansion House address on 17 October 1985.

[124] In his speech on 16 October 1980, the Governor suggested the need to avoid attaching undue importance to short-term developments in any single monetary aggregate: "... it is sounder to take into account, as we in fact do, the underlying developments both in the aggregates as a whole and in the real economy". See *Midland Bank Review*, Spring 1981, p. 13.

[125] M1 is notes and coins in circulation with the public *plus* United Kingdom private sector sterling sight deposits with banks in the United Kingdom; PSL2 consists of M3 (excluding deposits with original maturity of less than two years) plus the United Kingdom non-bank, private sector's holdings of: Treasury and bank bills, deposits with local authorities, certificates of tax deposit, most building society shares and deposits, and short-term National Savings certificates.

[126] Total domestic credit is the total of lira credit extended by banks and specified institutions (in particular the Special Credit Institutions) to both the public and private sectors. However, credit afforded via a number of financial instruments is excluded.

been true in the 1980s of the Federal Republic of Germany, the United Kingdom, France and Italy, and (as will be discussed below) it came to be true also of the United States in 1985.

(b) Interest rates as intermediate objectives

Official transactions in the financial markets, which have become the main policy instrument by which central banks seek to keep the growth of the money stock close to its target path are, at the same time, the main instrument available for influencing the exchange rate. In both cases the transmission mechanism by which the instrument achieves its objective is largely via the level of money market interest rates. Low rates (achieved by central bank purchases of assets or by money-market lending) serve both to encourage the growth of the money stock *and* to depress the exchange rate, and vice versa: this is why, when central banks give lower priority to achieving their money-stock targets, one of their reasons for doing so is frequently that the focus of their attention has shifted to the exchange rate. The transmission mechanism they rely on forces them to choose between a level of interest rates which would achieve the money-stock target and a level which would prevent an unacceptable under- or overvaluation of the exchange rate.

Nor is the choice between the money-stock and the exchange rate the only dilemma, since there are other variables which may be influenced by the level of interest rates. For example, in all five countries under consideration, the authorities (since about 1982) have accepted with obvious reluctance the constraint which either the excessive pace of their monetary growth or the weakness of their exchange rate has imposed on their ability to reduce the level of interest rates. They would have liked lower interest rates for a variety of reasons, including, for example, to help home-buyers and the depressed construction industry; to reduce industrial costs; to relieve the debt service burden on borrowers, especially the developing countries, and hence diminish the risk of default (this has been especially important in the United States and the United Kingdom); and to rescue from insolvency financial intermediaries which had imprudently borrowed short and lent long (this has been especially important in the United States).

(ii) Instruments of monetary policy

(a) Exchange controls

As already noted, the United States and the United Kingdom have not used exchange controls, or other regulations with equivalent effect, in the 1980s; nor has the Federal Republic of Germany since March 1981. However France and Italy still maintain controls on capital outflows, which they use as instruments of monetary policy insofar as they tighten the controls when they have balance-of-payments difficulties, as at the time of the realignment of ERM parities in March 1983. Controls are relaxed once the difficulties are over, as in December 1984, for example, when depleted foreign currency reserves had been restored. [127]

(b) Regulations on banks

Although in the 1980s the deregulation of banking has proceeded in all industrialized countries, the starting-point and the pace of change have varied. [128]

The following outlines the position in the five countries with which this note is concerned, with respect to the different types of regulation imposed on banks for monetary policy purposes.

Reserve ratios

Reserve ratios require that each bank should hold high-powered money [129] (and sometimes other specified liquid instruments, such as Treasury bills) amounting to some minimum percentage of some specified item on its balance sheet (usually its deposit-liabilities). The purpose is to ensure that any expansion of the banking industry's aggregate balance sheet automatically increases the demand for high-powered money and thereby bids up short-term interest rates, unless the central bank chooses to accommodate the increased demand by money-market lending or by buying financial instruments of one kind or another. The United States, the Federal Republic of Germany, France and Italy all use reserve ratios for this purpose; however the United Kingdom ceased to do so as from August 1981 and the Federal Republic of Germany may conceivably follow the United Kingdom's example. [130]

In addition to serving their ostensible purpose, reserve ratios have two side-effects:

(1) like all other regulations imposed specifically on banks, they impose a handicap on banks in competing for business with nonbanks (which is generally taken to be an undesirable side-effect);

(2) they provide a captive market for public sector liabilities (which, in the period under consideration in this paper, has not been a desired side-effect except in Italy, where its importance in the eyes of the central bank is shown by the high level of the reserve requirement). [131]

Monetary authorities which impose reserve ratios can use them as a fixed fulcrum—with the ratio remaining constant through time—or can at their discretion increase the ratio to engineer a shortage of bank reserves (or diminish the ratio to relieve a shortage). The Federal Reserve has powers to vary the reserve ratio but does not use them. The Bundesbank has similar powers but has not used them since October 1982. [132] However the central banks of Italy [133] and France both still regard themselves as free to change reserve ratios.

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[127] See Federal Reserve Bank of New York, *Quarterly Review*, Spring 1985, p. 66.

[128] See Bank for International Settlements, *Annual Report*, No. 55, June 1985, p. 71.

[129] High-powered money means the quick liabilities of the central bank.

[130] It has been reported that the Bundesbank, in response to the commercial banks' pressure to reduce drastically the imposed reserve ratios, has promised in "a few months" to relax these ratios, although by a lesser amount than the banks had hoped for. See the *Financial Times*, 20 December 1985.

[131] "The pressures that public finances exert on the growth in monetary base are impairing the compulsory reserve instrument's function as a stabiliser of money creation. In these circumstances a high reserve ratio is an indispensable corrective." (Banca d'Italia, *Annual Report 1984*, p. 149). In addition to imposing a high reserve ratio, the Italian authorities imposed, as from 1973, a "securities investment requirement for banks", requiring them to hold a prescribed percentage of public sector debt. This percentage was at one time as high as 30 per cent, but was somewhat reduced in 1978 and very greatly reduced in 1983 (Banca d'Italia, *Annual Report, 1983*, pp. 82, 83).

[132] But see footnote 130.

[133] With the ending of credit ceilings in Italy in 1983, the Italian authorities felt they would need to rely even more on their ability to raise their reserve ratios—which were in fact raised at end 1982. (OECD, *Economic Outlook*, Paris, July 1983).

Balance sheet ratios discouraging the growth of individual banks

With the text-book kind of imposed reserve ratio, the distribution of high-powered money between individual banks is determined by market forces (i.e., by the rise or fall of interest rates) rather than by administrative decisions taken by the monetary authorities. However, reserve ratios become discriminatory (in the sense of penalising banks for improving their market share) when they are prescribed not as a fixed percentage, but instead as an increasing function of the balance sheet item to which it is related. For instance, the reference ratio may be a relatively low percentage so long as a bank's deposits (or advances) do not exceed their total at some specified base date, but a higher percentage on any additional deposits (or advances). All five countries discussed here have had recourse to such devices, [134] but only in France and Italy have they remained in operation since 1980. In France, the system introduced in 1985 provides for reserve ratios to rise steeply in relation to the credits granted by each individual bank. [135] In Italy, the banks have been subject in the 1980s to a higher reserve ratio on new deposits; [136] and the differential was indeed increased in 1983. [137]

Credit ceilings

Another form of regulation which discourages banks from competing for business is the credit ceiling, imposed to limit each bank's lending in total or to a specified category of borrowers, such as the private sector. The Bundesbank has never imposed credit ceilings, but the Bank of England did until 1971 and the US authorities temporarily imposed a 6-9 per cent target range on bank lending as part of their deflationary package of 18 March 1980.

In Italy the credit ceilings introduced in 1973 were abolished in July 1983 and the credit guidance which succeeded them was terminated in December 1983. [138] By then "the long series of measures to develop a money market in Italy [had] made it possible to manage money and credit predominantly by indirect means" [139]—that is, by the management of the supply of, and demand for, high-powered money.

In France, the system of *encadrement du crédit*, introduced in 1973, was discontinued at the end of 1984, to make way for the simpler (though apparently not less strict) régime described in the 1984 Annual Report of the Conseil National de Crédit. [140]

Qualitative regulations on bank lending

Sometimes regulations are introduced with the intention of controlling not only the amount, but also the composition, of bank lending. In this case separate ceilings are imposed on lending to different categories of borrowers, as with the French *encadrement du crédit*, and also with the Italian ceilings, at any rate up to the end of 1981.

Alternatively, lending to different categories of borrowers may be differentially penalized by the imposition of lower reserve ratios on lending to high priority borrowers. Such an arrangement has existed in France since the *encadrement du crédit* was replaced in January 1985. Preferential transactions include exports and low-interest housing loans. Nevertheless, the general move is away from such differential treatment. [141]

Interest rate ceilings

Imposed ceilings on interest rates paid or charged by banks have not been used in the Federal Republic of Germany since 1967 or in the United Kingdom since 1975. In the United States, the Depository Institutions Deregulation Act of 1979 provided for the phasing out of the Regulation Q ceilings on deposit rates; only a small range of deposits is still covered by this regulation. In Italy, since the war:

> "... the Central Bank preferred not to avail itself of its power to impose ceilings on rates on deposits, but there were forms of self-regulation of rates on funds raised by the banks, attempts which were given up in the first half of the 1970s." [142]

In France, both the borrowing and lending rates of banks are regulated by the Conseil National du Crédit, and so far no move has been reported to discontinue this arrangement.

(c) National debt management

In the United States and the Federal Republic of Germany, where the central banks are independent, *de facto* as well as *de jure*, monetary policy and national debt management are in different hands. In consequence, the central banks tend to take the view that the banking system has no responsibility to meet the government's borrowing needs, while on the other hand the government has no responsibility to manage the national debt in a way which helps to implement monetary policy. The central banks of both countries are of course concerned about the total amount of bank lending, but how the total is distributed between the public and private sectors is left for the commercial banks to decide on commercial criteria.

This contrasts with the position in the United Kingdom, France and Italy, where monetary policy and national debt management are seen as interrelated, with the banking system accepting responsibility for meeting the government's residual borrowing requirement and the government accepting, at least in principle, the responsibility to avoid abusing this facility (that is, accepting the responsibility to sell as much of its debt as possible to non-bank investors). The tactics employed by the governments are various, but very largely they amount to issuing government debt on terms and conditions which make it especially attractive to non-bank holders. This means not only offering attractive yields and popular maturities, but also tax concessions, indexing in various ways, permitting bearer stock certificates, and so on. [143]

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[134] The UK "corset", which was such a device, was discontinued in 1980. The US marginal reserve requirement, imposed in October 1979, was discontinued in July 1980. The Bundesbank imposed reserve requirements on increases in domestic liabilities for a limited period in 1970, but not subsequently; however, on liabilities to non-residents, such arrangements persisted until 1980, as part of the Federal Republic's restrictions on capital inflows.

[135] For a brief description of the new arrangements, see Bank for International Settlements, *Annual Report*, No. 55, June 1985, p. 72. For details, see Conseil National de Crédit, *Rapport Annuel*, 1984.

[136] OECD, *Economic Outlook*, Paris, July 1981.

[137] Banca d'Italia, *Annual Report 1984*, p. 76.

[138] Bank for International Settlements, *Annual Report*, No. 55, p. 67.

[139] Banca d'Italia, *Annual Report 1984*, p. 148.

[140] See footnote 135 above.

[141] See OECD, *Economic Survey, France*, Paris, July 1985.

[142] Franco Cotula, "Financial Innovation and Monetary Control in Italy", Banca Nazionale del Lavoro, *Quarterly Review*, September 1984, p. 227.

[143] See Brian Tew, *Monetarising Government Debt*, Loughborough University Banking Centre Paper No. 19, November 1985.

Both the United Kingdom and France have had problems in avoiding excessive monetization of government debt, but by the 1980s they were no longer acute. In the case of Italy, there had been a change in national debt management policy in 1976, when Treasury bills (*Buono Ordinario del Tesoro*) were for the first time issued to the non-bank public, with high liquidity and an attractive yield. The Italian government also issued, as from 1977, floating rate medium-term paper (*Certificato di Credito del Tesoro*) which enjoyed tax exemption. This new government paper was well received, and presumably reduced the monetization of government debt below what would otherwise have occurred.[144] However, the problem of excessive monetization could not be satisfactorily tackled so long as the Bank of Italy undertook the obligation to be the buyer of last resort for unsold Treasury bills. This obligation remained operative until July 1981.

(d) Fiscal policy

In the 1970s the respective roles of monetary and fiscal policy in all five countries came to be viewed in the perspective of monetarist theory. It was widely accepted *either* that fiscal policy had no role at all in determining employment and the price level *or* that its role was to serve as part of the monetary mechanism. More particularly, government borrowing was regarded as undesirable on account of its monetary effects: if the borrowing was from the banks, it would produce an undue expansion of the money stock; but if it was from non-banks, it would bid up interest rates and crowd out private sector expenditure on goods and services.

This view however, was not consistent with the big rise in the Federal budget deficit in the United States from 1982, although in 1985 steps were taken to cut the deficit progressively over the next few years. This massive boost to effective demand in the United States between 1982 and 1985 was undoubtedly successful in promoting non-inflationary growth. The experiment was successful not merely for its effect on the US economy, but also in promoting economic recovery elsewhere, especially in the developing countries and in Canada and Japan. Moreover, in so doing, it has held the sovereign debt crisis at bay.

Now that the United States leading role in the expansion is diminishing, the US administration is urging its trade partners (especially the Federal Republic of Germany and Japan) to share it, in particular by adopting a more expansionary fiscal stance. So far the response to this request seems to have been muted. The adoption of policies similar to those in the United States, even if in a diluted form, could substantially affect the conduct of monetary policy in Europe and Japan (as it has already done in the United States). This is because it focuses attention on what has come to be called the "monetary-fiscal policy mix", with no longer any presumption that monetary and fiscal policy must necessarily move in the same direction. In the United Kingdom, for example, the new policy mix seems to amount to some fiscal relaxation combined with higher interest rates than had hitherto been thought appropriate.

(e) Official transactions in the financial markets

Official transactions in the financial markets in the 1980s have been the most important instrument for implementing monetary policy in the United States, the United Kingdom and the Federal Republic of Germany, and likewise since 1983 in Italy:[145] only in France does there remain a considerable reliance on official regulation of bank lending.[146] But even there the monetary aggregates have not been controlled by the *encadrement* system alone.[147]

The most important route by which official transactions have their effect on the real economy is by increasing the commercial banks' reserves of central bank liabilities (by official purchases of assets or by official money-market lending) or, alternatively, by decreasing them (by official sales or by calling in official loans). In this way the authorities can support money market interest rates (by depleting the banks' reserves) or, alternatively, depress them (by adding to the banks' reserves). In all five countries except the United Kingdom, the leverage of official transactions is ensured by the fulcrum of an imposed minimum reserve ratio. Since August 1981, the "fulcrum for money market management [in the United Kingdom] should be served by the volume of operational funds which the London clearing banks would retain voluntarily at the Bank [of England] for clearing purposes".[148]

Though the monetary authorities can increase or decrease the commercial banks' reserves by dealing in any financial market, their preference is for money market transactions, which have increasingly taken the form of security deals (including repurchase agreements) instead of conventional central bank credit. In addition some central banks have engaged in foreign exchange swaps.[149] This statement may seem to overlook the outright purchases and sales of foreign currencies which the central banks in all five countries conduct in the foreign exchange market (the United States using mainly the DM as its intervention currency and the United Kingdom, the Federal Republic of Germany, France and Italy mainly the US dollar) and which, *if unsterilized*, act on the exchange rate both directly and also via interest rates. (For example, if the Bundesbank sells dollars, without taking offsetting action in the money market, this will at the same time directly bid up the DM in the foreign exchange market and also increase interest rates in the Federal Republic, thereby attracting a capital inflow.)

However, in practice most central bank transactions in the foreign exchange markets are *sterilized*. This is certainly so in the United States and the United Kingdom, since in both countries the central bank's routine procedure for managing the money market ensures that an official sale (purchase) of foreign currency is matched by a like purchase (sale) of local-currency securities, so that the commercial banks' reserves remain on balance unaffected. In the Federal Republic of Germany, France and Italy, it is less true that sterilization is routine, but nevertheless changes in the net foreign assets of the central banks have been largely offset by movements in their domestic assets.[150] The widespread practice of sterilisation is somewhat surprising in that a recent report, the Jurgensen Report, commissioned by the ministers of the Group of Five,[151] concluded that sterilized intervention had only a weak and temporary effect:

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[144] Luigi Spaventa, "The Growth of Public Debt in Italy", in Banca Nazionale del Lavoro, *Quarterly Review*, June 1984.

[145] "In 1983, monetary policy was conducted largely through the control of the monetary base and bank reserves [which] permitted the non-renewal of the ceiling on lira loans by the banks." Banca d'Italia, *Annual Report 1983*, p. 76.

[146] "It is the view of the monetary authorities that France's financial structures are not at present such as to allow monetary policy to be based primarily on interest rates ... The regime introduced at the beginning of 1985 thus remains akin to the old credit ceiling system ..." OECD, *Economic Survey: France*, July 1985, p. 13.

[147] M. Camdessus, Governor of the Bank of France, has stated: "We are piloting by interest rates as well. It is something like a dual-command system, which will allow us to progressively eliminate the lending ceilings." As quoted in the *International Herald Tribune*, 28 October 1985.

[148] Bank of England, quoted in *Midland Bank Review*, Summer 1982, p. 21.

[149] Bank for International Settlements, *Annual Report*, No. 54, pp. 70 and 72.

> "... the Working Group felt that intervention had been an effective tool in the pursuit of certain exchange rate objectives —notably those orientated towards influencing the behaviour of the exchange rate in the short run. Effectiveness was found to have been greater when intervention was unsterilized than when its monetary effects were offset ... There was also broad agreement that sterilized intervention did not generally have a lasting effect, but that intervention in conjunction with domestic policy changes did have a more durable impact."[152]

Although the committee's conclusions were not based on extensive research, they are important in so far as they reflect the views prevalent amongst monetary authorities, namely, that their sterilized foreign exchange transactions have only a modest and short-term impact on the market. Hence, if they want a more substantial and/or continuing effect, they must be prepared to operate on local-currency interest rates, mainly by undertaking transactions in the home-currency financial markets rather than in the foreign exchange market.[153]

This throws further light on the dilemma which underlies the monetary policy of all five countries in question. If they rely on transactions in the financial markets as the main instrument of policy, they cannot use this instrument to pursue two possibly incompatible objectives—keeping the money stock on its targeted path and preventing the under- or overvaluation of the exchange rate. Hence they will be forced to choose which objective should have priority.

In practice the choice of priorities has been different not only between countries but also at different times in the same country. Since the creation of the EMS in 1979 France and Italy have given priority to maintaining their exchange rate parities in the EMS and, despite occasional devaluations, have succeeded remarkably well. The pragmatic attitude of the Federal Republic of Germany to the money-stock *versus* exchange-rate dilemma has already been illustrated in the words of Dr. Emminger, quoted above on page 74. In the United Kingdom policy has changed considerably, from benign neglect of the sterling exchange rate in 1979 to the present emphasis on the need to support the pound.

However, it is in the United States where the money-stock *versus* exchange-rate dilemma has perhaps been most acute. In most years since the demise of Bretton Woods in the early 1970s the United States authorities have favoured a policy of benign neglect of the dollar exchange rate, with only small-scale and quickly-unwound interventions to correct what were officially diagnosed as "disorderly markets". However, in the last years of the Carter administration, as from the last quarter of 1978, the Federal Reserve, operating in co-operation with the Bundesbank and to a lesser extent with the Japanese authorities, supported the dollar in the foreign exchange markets on a massive scale. At the same time the Federal Open Market Committee ruled that open market operations should give "due regard to the program for supporting the foreign exchange value of the dollar".[154] So benign neglect was abandoned—but only temporarily. Soon after President Reagan succeeded President Carter, the new Treasury Secretary announced on 18 April 1981 that the United States would henceforth "not intervene to support the dollar as a regular practice", but instead would do so only in "emergency situations". That was the position for several years, although the dollar's dramatic appreciation gave rise to increasing concern. Then on 22 September 1985 there was a meeting of the Group of Five in New York, which ended with an announcement that the Group, including the United States, had decided to act jointly to secure a depreciation of the US dollar.

(f) International collaboration

The first sign of a significant change in United States policy was the communiqué issued after the Group of Five meeting on 22 September 1985. Previously there had been some attempts at concerted intervention, the first one in August 1983. In that month the central banks of the United States, the Federal Republic of Germany, Switzerland and Japan sold about 2 1/2 to 3 billion dollars in the market, to counter the rise in the dollar. But it seems to have made very little difference.[155] Thereafter, apart from brief intervention by the Federal Reserve and Bundesbank in the exchange market in September and October 1984,[156] little further concerted action seems to have been taken until the new year.

Events moved rapidly in the first quarter of 1985: on 17 January the Group of Five reached a new agreement on currency intervention and five days later the European central banks intervened jointly to resist the appreciation of the dollar. Between 22 January and 1 March official sales of dollars by the co-operating countries reached a cumulative total of more than $10 billion, and the dollar had fallen from a peak of DM 3.50 to DM 3.30 by the end of February.

After an interval of six months came the New York meeting of the Group of Five on 22 September 1985. From then until the end of the month total official sales totalled 3.5 billion dollars, of which 1.3 billion were sold by Japan, 1 billion by Italy and the balance by the United States, the United Kingdom and the Federal Republic of Germany. This policy of intervention has continued, but it is too soon to judge with what degree of success. In addition to selling dollars in the market, the Japanese authorities have also sought to depress the dollar in relation to the yen by raising interest rates, as they did on 25 October, in the hope of thereby arresting the flow of private sector capital out of the yen into the dollar. As the September 1985 meeting of the Group of Five does not appear to have included an agreement to manipulate interest rates, Japan would seem to have been acting on her own initiative, and in any case the policy was discontinued in December.[157]

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[150] For example, in the Federal Republic of Germany in 1980 official exchange reserves were reduced by DM 16 1/2 billion, which implies a direct withdrawal of Central Bank Money of the same amount from the commercial banking sector. These balance-of-payments induced liquidity losses have been offset through a lowering of minimum reserve ratios, an increase in the rediscount quota, premature repurchase of securities from commercial banks and by taking securities "en pension". OECD, *Economic Outlook*, Paris, December 1980, p. 88. In 1985 the contractionary impact of the Bundesbank's exchange market interventions on "CBM developments was counterbalanced mainly by open market operations in order to keep CBM growth on track". OECD, *Economic Outlook*, Paris, June 1985, p. 86.

[151] The Group of Five comprises the United States, the United Kingdom, the Federal Republic of Germany, France and Japan.

[152] Working Group on Exchange Market Intervention, established at the Versailles Summit of the Heads of State and Government, June 1982, *Report of the Working Group on Exchange Market Intervention*, March 1983, p. 17.

[153] Provided that the market believes that the authorities will in the end act in this way, rather than relapse into benign neglect of the exchange rate, sterilised intervention may be interpreted by the market as a "shot across its bows" which has to be heeded. Hence the authorities may use sterilised intervention as a way of signalling their intentions.

[154] November 1978 meeting.

[155] See Bank of International Settlements, *Annual Report*, No. 54, p. 133.

[156] Federal Reserve Bank of New York, *Quarterly Review*, Winter 1984-1985, p. 47.

Concluding remarks

The experience of the 1980s shows how difficult it has been for the monetary authorities to find a monetary aggregate on which they could rely as a measure of the stance of monetary policy and, especially, as an indicator of inflationary pressure. The shortcomings of monetary targeting, however, are only partly due to the financial innovations (reviewed above) which governments were implementing independently of monetary policy. Concern for monetary targets has often had to give way to concern for the exchange rate—a familiar story in western Europe throughout the 1980s, but also true for the United States from 1985. Nor is the choice between money stock targets and the exchange rate the only dilemma facing governments and the monetary authorities—the pursuit of other objectives has also been compromised by the level of interest rates.

The appeal of monetarism has declined as unemployment has replaced inflation as the major problem facing governments. Another important factor has been the instability in real exchange rates which has been considerably larger than the monetarists had expected. The view that the determination of the exchange rate should be left entirely to market forces was ultimately based on the argument that if each country set its domestic policies correctly a stable set of exchange rates would automatically emerge. This, in effect, provided a justification for each country to act (or try to act) independently and to deny that national policies could have an adverse effect on the rest of the world.

The Group of Five decision in September 1985 to co-ordinate intervention in the foreign exchange markets is therefore a significant event. Not only does it formally end the policy of non-intervention in exchange markets but, by admitting that monetary policy in one country may have adverse effects on others, restores the basis for international policy co-operation.

However, the Group of Five decision is only a first step towards securing greater co-operation in macro-economic policy formulation. Agreement to intervene in the foreign exchange markets (in practice by sterilized intervention) needs to be backed by further agreement to pursue consistent fiscal and monetary policies. In this regard the United States has already decided on the appropriate change in its policy mix (a less expansionary fiscal policy combined with a more expansionary monetary policy), but so far other major market economies do not seem to be prepared to consider a similar change in their own mix of policies.

The Group of Five initiative on exchange rates has far-reaching implications for international policy collaboration. In the first place it implies that the Group of Five currencies will need to be kept under expert review in the hope that "a common view can emerge (and be revised from time to time) as to an acceptable broad range of exchange rates—possibly deliberately fuzzy around the edges—consistent with mutual balance-of-payments equilibrium and adjustment".[158] This view would be based on the continuance of announced policies and, hence, would have to be revised whenever the policies were changed. Secondly, whenever this expert analysis reveals any of the Group of Five currencies to be unsustainably low or high, Group of Five ministers would have to meet to try to agree on suitable revisions to their existing policies in order to reduce the divergence between each actual rate and the rate deemed consistent with "mutual balance of payments equilibrium and adjustment". The final implication is that Group of Five governments would then act accordingly.

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[157] *Financial Times*, 19 December 1985, reporting a statement by the governor of the Bank of Japan.

[158] Paul A. Volcker, "Priorities for the International Monetary System", in Federal Reserve Board of New York, *Monthly Review*, vol. 58, January 1976, p. 8.

2.9 THE EFFECTS OF ENERGY PRICE AND REAL INTEREST RATE SHOCKS ON REAL OUTPUT

(i) Introduction

This note focuses on the question of how inflation and interest rate shocks affect the real side of the economy. In order to provide some answers, a simple aggregate demand model is specified and estimated from the data of ten western market economy countries. The model yields estimates of the effects of changes in real interest rates and energy prices, and also allows some scrutiny of a number of general features of output, price and interest rate determination in these countries: for example, the speed at which output adjusts to changes in its various determinants.

The study is based on quarterly data for the period 1964-1983. Given that the total number of observations is 650, it is possible to evaluate the stability of the underlying behavioural equations over time. Unfortunately it is not possible to analyse closely the period after 1979, which is of special interest because of the changes in monetary policy which occurred in some countries.

(ii) Theoretical considerations

The analysis concentrates on the behaviour of aggregate demand: in conventional Keynesian terms, an empirical counterpart to the IS-curve is specified. In practice, this means that the different demand components are aggregated and that an equation for GDP is estimated.[159] Obviously this aggregation prevents the use of expenditure-specific variables, such as different measures of user-cost. It also makes the use of income variables somewhat dubious. This note therefore ignores the income side—not only because of the aggregation problem but also because of simultaneity between output, income and expenditure. The desire to avoid simultaneity problems due to income-induced changes in aggregate demand is also partly due to the fact that there are already serious simultaneity problems because of the (presumably) endogenous nature of real interest rates.

The analysis is based on the following aggregate demand (output) model:

$$(1)\quad Y = a_0 + a_1Y(-1) + a_2X + a_3GA + a_4SS + a_5r + a_6p^e + a_7TIME + u,$$

where all the variables except r, p^e and t are in natural logs and where Y is actual real output, X and GA, the exogeneous components of the actual real output, are real exports and real government final consumption respectively, SS is the supply shock variable measuring the relative price of energy; r is the real interest rate; p^e is the corresponding expected rate of inflation; TIME is the time trend variable; and u is a stochastic error term.[160]

The role of the variables on the right-hand side of equation (1) is straightforward. This is particularly true of the autonomous components of aggregate real demand, X and GA (even though some fiscal policy rules may invalidate the assumption that government consumption is strictly exogeneous). As far as the other variables are concerned, SS captures the influence of changes in the relative price of energy which should presumably affect investment negatively (assuming that capital and energy are complements). The real interest rate affects both private consumption and investment: even though the sign of the effect is theoretically ambiguous, because of conflicting income and substitution effects, the overall effect should be negative. The expected rate of inflation affects aggregate demand not only via the real interest rate but also via "real balance effects" which, in turn, should reduce expenditure and increase saving. The expected rate of inflation is placed in an unrestricted form in order to ensure that the various restrictions on p have as little effect as possible on the estimated coefficient of r.

The lagged output term, Y(−1), is introduced to capture the persistence (or inertia) of both consumption and investment expenditures. By estimating the coefficient of this variable, short and long-run effects can be distinguished (given, of course, that the implied Koyck lag structure is correct). Finally, the time trend variable, TIME, is allowed to enter the equation to capture the effects of technical change. The TIME variable may also serve as a proxy for real wealth (or permanent income), and thus the sign of its coefficient is not clear *a priori*. Even though the TIME variable does not allow for far-reaching economic conclusions, it does help to determine the robustness of the underlying model.

(iii) Estimation procedure

As mentioned earlier, equation (1) is estimated by using pooled data from ten market economy countries in the ECE area. Even though the number of observations for each country is about ten times the number of estimated parameters, the existence of small-sample bias cannot be ruled out when estimating the model for each country separately. Therefore, the data were pooled, and because they are used in the level form, individual country intercepts are always introduced. Pooling is carried out both by using equal weights for all countries (i.e., the data are unweighted, denoted by the abbreviation UW) or by using GDP weights,[161] denoted in turn by W.

Besides various data questions there are two major problems in the empirical analysis: first, how to obtain data for the unobservable, *expected* rate of inflation, a crucial variable in evaluating the role and impact of the real interest rate on output? And secondly, how to take into account the fact that the real interest rate is presumably endogenous?[162]

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[159] GDP is used mainly because of its role as the major focus variable, but there are also some data reasons for doing so.

[160] In order to close the whole macro-model, another requirement is a demand equation for real money balances (which is typically specified in terms of the nominal rate of interest and aggregate output), as well as some sort of aggregate supply or Phillips curve relation. Thus, when the output equation is estimated by using the instrumental variable (IV) method, the money stock should be taken into account. The model used here is in essence similar to many others: for example, J. Peek, "Interest Rates, Income Taxes and Anticipated Inflation", *American Economic Review*, December 1982, pp. 980-991; J. A. Wilcox, "Why Real Rates Were So Low in the 1970's", *American Economic Review*, March 1983, pp. 44-53, and Y. Mehra, "Inflationary Expectations, Money Growth, and Vanishing Liquidity Effect of Money on Interest: A Further Investigation", *Federal Reserve Bank of Richmond Economic Review*, March/April 1985, pp. 23-35.

[161] These are the values of gross domestic product in purchasers' values in billions of constant US dollars at the exchange rates and price levels of 1975. The data are taken from OECD, *National Accounts, Main Aggregates*, volume I, Paris.

As far as the the expected rate of inflation is concerned, two ways of constructing a proxy for this unobservable variable are used. Obviously, all proxies include measurement error, which in turn tends to bias the estimates, but there is no way of establishing the degree of bias: the variance of the measurement error (as well as the true variance of the stochastic error term) is simply not known. The proxies used are, on the one hand, the actual rate of inflation (denoted by A) and, on the other hand, the predictions of an autoregressive model, AR(k), and a vector autoregressive model, VAR(k), where k indicates the length of the lag. The use of the actual rate of inflation as a proxy for the expected rate of inflation is, of course, at variance with the Rational Expectations Hypothesis, whereas the use of the AR(k) and VAR(k) models are consistent with the weak and semi- strong forms of this hypothesis. This, in turn, suggests that it might be sufficient just to use the VAR proxy. Unfortunately, vector autoregressive models consume a large number of degrees of freedom and therefore, more parsimonious models (using the actual rate of inflation and the predictions of a univariate autoregressive model) are also used.

The simultaneity problem caused by the presence of the real interest rate in the output equation is solved in a standard way by using the instrumental variable method, and by having the (current and lagged) growth rate of the money stock—in addition to the current and lagged values of the exogeneous variables—as an instrument. However, the three-stage least squares method is also applied so that equation (1) is estimated together with a demand-for-money schedule (which, in turn, is solved with respect to the nominal interest rate). In fact, the two sets of results turn out to be very similar. In order to avoid a detailed discussion of the specification of the demand-for-money (real balances) equation this paper concentrates on the results of using the instrumental variable method (IV).

(iv) Empirical results

The country sample consists of quarterly data for the market economy members of the ECE region: Austria, Canada, the Federal Republic of Germany, Finland, France, Italy, Sweden, Switzerland, the United Kingdom and the United States of America.[163] Seasonal adjustment had already been made by OECD for most of the series used, but for some data seasonal adjustment was carried out by the ECE secretariat.[164] The interest rate series were found to be free from seasonality and these were therefore not adjusted. The data sample covers the period 1964.I-1983.IV for the large countries (Canada, the Federal Republic of Germany, France, Italy, the United Kingdom and the United States) and the period 1970.I-1983.IV for the others (this is simply because of reasons of data availability). Five observations were lost in differencing and lagging so that the final estimation used data samples of 75 and 50 observations per country in the two groups of countries.

The following time series are used in the analysis: Y, the Gross Domestic Product (in the case of Canada and the United States the Gross National Product is used instead) at constant prices; P, the corresponding implicit deflator of GDP; X, exports at constant GDP prices; GA, government final consumption at constant prices; SS, the producer price of energy (or fuel or, in some cases, petroleum products) relative to P; M, the money supply including quasi-money; RL, the nominal long-term interest rate, derived as the yield on long-term government bonds; RS, the nominal short-term interest rate, derived as the three-month Treasury bill rate (unfortunately, only available for the six larger countries: the analysis is therefore based mainly on the long rates); and TIME, the time trend. Interest rates and inflation are expressed as annual rates. The interest rate observations are those for the end of each period.

Using these data some general features of the pre- and post-oil shock periods can be briefly noted. The latter period is in all countries characterized by higher inflation, lower and more volatile output growth, higher growth rates of energy prices (in both absolute and relative terms), and a slowdown in the growth of exports and government final consumption. The growth rates of the monetary aggregate in the two sub-periods are not markedly different, and the changes in real interest rates do not seem to follow any clear pattern. Obviously, one should not look at the post-oil shock period as one entity, particularly as far as monetary policy is concerned: the emphasis of monetary policy shifted from interest rate to money supply targets around 1979 and 1980.

The weighted and unweighted results are tabulated in tables 2.9.1-2.9.3. Both ordinary least squares (OLS) and instrumental variable (IV) results are displayed.

By pooling the data, a large number of observations are obtained, in this case 650, so that the results should allow for correct inferences to be made about the existence of any output effects. However, in pooling the data the parameters to be estimated (excluding the intercept terms) are restricted to be the same for all individual countries.

The parameter estimates in table 2.9.1 indicate that the autonomous expenditures generally have a positive effect on

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[162] If a conventional IS/LM framework is used, with the money supply being exogenous as a starting point, Y and r are indeed simultaneously determined. Obviously, if interest rates are regulated, or pegged by adjusting monetary aggregates, r might be treated as exogenous. Another case is implied by the simple form of the Fisher hypothesis which says that the real rate is approximately constant and the nominal rate will move one-for-one with the anticipated inflation rate. Clearly, this hypothesis does not produce any real interest rate effect. If, however, r is assumed to be endogenous, then it would be correlated with the error term, u, and the ordinary least squares estimates of the parameters of (1) would be inconsistent and thus lead to incorrect inferences as to the impact of interest rates on aggregate demand. This problem can, however, be solved by using the instrumental variable method. It should be emphasised that even if the interest rate is not market determined but is instead the result of direct regulation, this would not necessarily eliminate the simultaneity problem. If, in fact, interest rates are systematically adjusted in response to current values of, say, total output, then again the orthogonality between r and u would be violated. It is when policy reacts only to lagged values of Y that such a simultaneity problem does not arise and the use of OLS is appropriate. (The problem of the monetary policy reaction function also concerns the link between money supply and interest rates—in fact, if the monetary authority successfully pegs interest rates, interest rates and monetary aggregates would be uncorrelated.) Thus, the existence of systematic monetary policy makes the identification and estimation of the effects of interest rates on total output, for instance, very difficult, and so the empirical results should be considered with care.

[163] The sources of the data were as follows: OECD, *Main Economic Indicators, Historical Statistics*, Paris; OECD, *Quarterly National Accounts Bulletin*, Paris; national sources, and ECE secretariat estimates. In particular, the time series of government final consumption expenditure for the 1960s were constructed—partly by interpolation—in the ECE.

[164] This was done using the Moving Average Seasonal Adjustment procedure of the TSP software package. It is obvious that the seasonal adjustment procedure with respect to different time series differs and this, in turn, causes autocorrelation and decreases the efficiency of the estimates.

TABLE 2.9.1

Estimation results with pooled cross-country data: 10 countries, actual rate of inflation as a proxy for expected inflation

	$Y(-1)$	X	SS	r	p^e	GA	$TIME$	SEE	$D-W$	*Method*	*Weighting*
(1)	0.978 (103.91)	0.015 (3.39)	−0.008 (3.60)	−0.055 (1.88)	−0.125 (4.18)			0.0121	2.017	OLS	W
(2)	0.966 (68.67)	0.018 (3.61)	−0.008 (3.70)	−0.056 (1.90)	−0.127 (4.25)	0.012 (1.24)		0.0102	1.990	OLS	W
(3)	0.933 (57.70)	0.014 (2.86)	−0.011 (4.77)	−0.083 (2.78)	−0.133 (4.51)	0.006 (0.60)	0.040 (3.91)	0.0119	1.877	OLS	W
(4)	0.924 (74.32)	0.044 (7.00)	−0.008 (3.44)	−0.105 (3.19)	−0.154 (4.70)			0.0145	2.290	OLS	UW
(5)	0.880 (52.03)	0.046 (7.42)	−0.010 (3.99)	−0.112 (3.45)	−0.153 (4.72)	0.045 (3.81)		0.0144	2.230	OLS	UW
(6)	0.879 (51.67)	0.046 (6.87)	−0.010 (3.87)	−0.114 (3.44)	−0.154 (4.73)	0.043 (3.32)	0.003 (0.32)	0.0144	2.231	OLS	UW
(7)	0.985 (103.45)	0.016 (3.42)	−0.007 (3.11)	−0.131 (4.09)	−0.190 (5.98)			0.0121	1.995	IV	W
(8)	0.971 (68.57)	0.018 (3.65)	−0.007 (3.22)	−0.131 (4.12)	−0.192 (6.05)	0.013 (1.29)		0.0121	1.995	IV	W
(9)	0.934 (57.36)	0.046 (2.78)	−0.008 (4.47)	−0.152 (5.17)	−0.196 (6.48)	0.005 (0.53)	— (4.53)	0.0145	2.290	IV	W
(10)	0.925 (74.28)	0.046 (7.29)	−0.008 (3.46)	−0.152 (4.30)	−0.196 (5.66)			0.0145	2.290	IV	UW
(11)	0.880 (51.97)	0.049 (7.72)	−0.010 (4.01)	−0.160 (4.57)	−0.197 (5.73)	0.046 (3.89)		0.0144	2.228	IV	UW
(12)	0.879 (51.60)	0.047 (7.10)	−0.010 (3.96)	−0.162 (4.59)	−0.198 (5.75)	0.043 (3.30)	0.006 (0.53)	0.0144	2.230	IV	UW

Note: Numbers in parentheses are (asymptotic) t-ratios. Equations include country intercepts which are not displayed.

output. The relative price of energy, the real interest rate, and the expected rate of inflation have instead a negative impact, while the coefficient of the time trend variable is positive. Most of the effects are highly significant: only when the sample period is divided into two sub-periods are some of the parameter estimates imprecise. The basic results are strikingly robust in terms of additional variables and the treatment of the expected inflation rate.

In the results for the whole sample period and all countries, the persistence or inertia of the movement of output stands out. The estimated coefficient of the lagged dependent variable is typically of the order of 0.90-0.95 which implies an adjustment lag [165] of up to five years. Thus, for instance, real interest rate disturbances have a long-lasting effect on output which is, of course, not surprising, given the long time that is frequently required to complete investment projects. The fact that the coefficient of $Y(-1)$ is close to one implies also that the long-run effects of changes in X, SS, r, p^e and GA are much greater than their short-run effects, which can be seen directly from the respective coefficients. [166] Thus, a 10 per cent increase in the relative price of energy decreases output by only one tenth of a percentage point within the same quarter, but the long-run negative effect is about 1 per cent. Similarly for the real interest rate: the short-run effect of a one percentage point increase in the real rate is equal to or less than one tenth of a percentage point, but the long run effect varies from between 1 and 2 per cent. [167]

It is interesting to note that the instrumental variable method produces much higher estimates for the coefficient on the long-term interest rate (r_L) than the ordinary least squares (OLS) method. This is clearly consistent with the view that the real interest rate is endogeneous. This, in turn, implies that the OLS estimates are biased and inconsistent. This simultaneity bias may be the reason why some other studies have obtained rather low interest rate elasticities.

From the practical point of view, endogeneity of the real interest rate has some important implications. It means, at least when evaluating the interest rate effects, that the current state of the demand for, and supply of, money cannot be ignored. Another point, perhaps more semantic, is that speaking about "interest rate effects" is somewhat misleading if the interest rate is not the causal factor. Before discussing this "causality" question, it will be useful to look first at the performance of the other explanatory variables.

As can be seen from tables 2.9.1-2.9.3, the rate of expected inflation has a strong negative effect on output. This seems to be an important fact, particularly if the possibility of some simultaneity bias between inflation and output is taken into account. It should be noticed, however, that the existence of a Phillips-curve relationship would imply a *positive* correlation between output and inflation. Thus, the result obtained here does not reflect a feedback from output to prices but more probably some sort of "real balance effect", as already mentioned, or the effect of inflation uncertainty on output. As far as the latter is concerned, it can be argued that an increase in the rate of inflation also causes an increase in inflation uncertainty. That is, relative prices become more uncertain and, given economic agents' risk-taking behaviour, this implies lower de-

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[165] If b is the estimated coefficient, the adjustment lag, in terms of quarters, is calculated by $b/1-b$.

[166] The long-run effect of changes in energy prices, the real interest rate, expected inflation, and autonomous expenditures is calculated by dividing the relevant coefficient by $1-b$.

[167] Additional calculations suggested that there is no substantial difference between the effects of short-term and long-term interest rates.

TABLE 2.9.2

Estimation results with pooled cross-country data: 10 countries, AR(4) model prediction as a proxy for expected inflation

	$Y(-1)$	X	SS	r	p^e	GA	$TIME$	SEE	$D-W$	*Method*	*Weighting*
(1)	0.975	0.020	−0.010	−0.004	−0.183			0.0119	2.033	OLS	W
	(104.37)	(4.43)	(4.62)	(0.12)	(5.71)						
(2)	0.949	0.026	−0.011	0.001	−0.193	0.023		0.0118	1.984	OLS	W
	(66.92)	(5.03)	(4.96)	(0.03)	(6.00)	(2.37)					
(3)	0.922	0.022	−0.013	−0.028	−0.194	0.016	0.036	0.0117	1.981	OLS	W
	(57.89)	(4.28)	(5.83)	(0.88)	(6.07)	(1.65)	(3.56)				
(4)	0.923	0.045	−0.008	−0.078	−0.176			0.0145	2.318	OLS	UW
	(74.19)	(7.07)	(3.46)	(2.18)	(5.09)						
(5)	0.875	0.047	−0.010	−0.085	−0.177	0.047		0.0145	2.250	OLS	UW
	(52.33)	(7.56)	(4.15)	(2.39)	(5.16)	(4.20)					
(6)	0.874	0.047	−0.010	−0.087	−0.177	0.047	0.004	0.0145	2.250	OLS	UW
	(52.06)	(7.00)	(4.04)	(2.41)	(5.17)	(3.61)	(0.36)				
(7)	0.980	0.020	−0.009	−0.083	−0.230			0.0119	2.046	IV	W
	(103.75)	(4.20)	(3.90)	(2.42)	(6.93)						
(8)	0.957	0.024	−0.009	−0.077	−0.239	0.022		0.0119	2.001	IV	W
	(66.80)	(4.75)	(4.22)	(2.27)	(7.17)	(2.20)					
(9)	0.925	0.020	−0.012	−0.119	−0.245	0.013	0.043	0.0118	1.991	IV	W
	(57.69)	(3.84)	(5.28)	(3.38)	(7.37)	(1.33)	(4.20)				
(10)	0.924	0.046	−0.008	−0.131	−0.212			0.0146	2.317	IV	UW
	(74.13)	(7.32)	(3.36)	(3.40)	(5.87)						
(11)	0.875	0.049	−0.010	−0.139	−0.213	0.050		0.0144	2.250	IV	UW
	(52.26)	(7.82)	(4.05)	(3.63)	(5.98)	(4.26)					
(12)	0.875	0.048	−0.010	−0.144	−0.214	0.046	0.007	0.0144	2.252	IV	UW
	(51.96)	(7.15)	(4.03)	(3.68)	(6.00)	(3.55)	(0.62)				

Note: Numbers in parentheses are (asymptotic) t-ratios. Equations include country intercepts which are not displayed.

TABLE 2.9.3

Estimation results with pooled cross-country data: 10 countries, VAR(4) model prediction as a proxy for expected inflation

	$Y(-1)$	X	SS	r	p^e	GA	$TIME$	SEE	$D-W$	*Method*	*Weighting*
(1)	0.976	0.020	−0.010	−0.006	−0.169			0.0119	1.983	OLS	W
	(104.65)	(4.26)	(4.55)	(0.17)	(5.38)						
(2)	0.963	0.022	−0.010	−0.006	−0.172	0.013		0.0119	1.954	OLS	W
	(69.16)	(4.46)	(4.66)	(0.18)	(5.46)	(1.34)					
(3)	0.937	0.018	−0.012	−0.037	−0.169	0.008	0.033	0.0119	1.954	OLS	W
	(58.25)	(3.64)	(5.35)	(1.15)	(5.39)	(0.79)	(3.15)				
(4)	0.926	0.044	−0.010	−0.047	−0.172			0.0144	2.225	OLS	UW
	(74.80)	(7.11)	(4.00)	(1.27)	(5.18)						
(5)	0.884	0.047	−0.011	−0.061	−0.169	0.042		0.0143	2.178	OLS	UW
	(52.24)	(7.50)	(4.44)	(1.67)	(5.14)	(3.58)					
(6)	0.884	0.047	−0.011	−0.062	−0.169	0.042	0.003	0.0143	2.178	OLS	UW
	(51.83)	(7.03)	(4.23)	(1.64)	(5.13)	(3.24)	(0.03)				
(7)	0.982	0.019	−0.008	−0.088	−0.219			0.0120	2.003	IV	W
	(104.03)	(4.01)	(3.76)	(2.56)	(6.68)						
(8)	0.969	0.021	−0.009	−0.088	−0.222	0.013		0.0120	1.973	IV	W
	(69.02)	(4.22)	(3.87)	(2.56)	(6.75)	(1.34)					
(9)	0.936	0.016	−0.011	−0.139	−0.223	0.006	0.044	0.0119	1.967	IV	W
	(57.75)	(3.16)	(4.75)	(3.80)	(6.83)	(0.62)	(4.04)				
(10)	0.926	0.046	−0.009	−0.099	−0.205			0.0144	2.238	IV	UW
	(74.73)	(7.34)	(3.84)	(2.46)	(5.92)						
(11)	0.883	0.049	−0.011	−0.117	−0.204	0.044		0.0143	2.189	IV	UW
	(52.06)	(7.75)	(4.29)	(2.92)	(5.94)	(3.74)					
(12)	0.882	0.048	−0.011	−0.120	−0.205	0.043	0.004	0.0144	2.201	IV	UW
	(51.60)	(7.18)	(4.19)	(2.92)	(5.94)	(3.26)	(0.34)				

Note: Numbers in parentheses are (asympototic) t-ratios. Equations include country intercepts which are not displayed.

mand and lower output.[168] Even though this variable has a meaningful interpretation, there is a problem with the magnitude of the estimated coefficient, because the implied long-run coefficient is typically around two, which is some 10 times larger than the short-run coefficient. The explanation is likely to be econometric: it could be due to strong multicollinearity between r and p^e or to incorrect specification of the lag structure.[169] A completely satisfactory explanation cannot be provided. One "solution" is to scrutinize the implied effects of expected inflation given the nominal rate of interest. The relevant figures do indeed make more sense. The corresponding long-run coefficients are, in the majority of cases, between zero and minus one so that a representative value for the coefficient of the nominal interest rate is -1 and for the expected rate of inflation $-1/2$.

As far as the other variables are concerned, the real export variable, X, behaves well, according to *a priori* theorizing: the coefficient is positive and of the expected magnitude. It is not surprising to find that the estimate of the coefficient on the export variable is sensitive to whether the individual country data are weighted or not. Government final consumption, GA, has a positive effect on output, as might be expected. However, this variable is also highly sensitive to the weighting pattern and to the inclusion of the time trend variable. Finally, it may be noted that the coefficient of the time trend variable is positive. As indicated earlier, this lends some support to the hypothesis that TIME serves as a proxy for real wealth. The estimates, however, are often so imprecise that it would not be justified to assign an important role to this variable.

It is of interest to establish whether the estimates are stable over time. To do this, the model was estimated separately for two sample periods, namely, 1965.II-1973.IV and 1974.I-1983.IV. The results (not shown) indicated few changes. From these results it is difficult to say whether or not output has become more responsive to energy prices, real interest rates and inflation.[170] This is partly because the results for the sub-periods are in general less precise. Perhaps, the only thing which is clear is the increased persistence of output behaviour: the coefficients of the lagged dependent variable increased considerably between the pre- and post-oil shock samples. Accordingly, the implied adjustment period more than doubles. In the case of the lagged dependent variable, the coefficient became very high in the period after 1974, exceeding unity in some cases. This result has some puzzling long-run implications because it suggests that the output series may follow a random walk.[171]

(v) Evaluation of results

The empirical analysis shows that aggregate demand and output are clearly that the effects of any shock on output will last for a considerable time. It has been stressed at various points in the discussion that output behaviour cannot really be isolated from the state of the monetary sector: there is indeed much simultaneity in the determination of output, interest rates and prices. This fact also comes out when studying the causal relationships between output, inflation, money and interest rates in a vector autoregressive (VAR) framework. The general result is that none of these variables can be considered strictly exogeneous (the results of the relevant Granger causality tests are given in table 2.9.4).[172]

It seems that in order to reach conclusions on the behaviour of output, knowledge of the basic determinants of interest rate and price behaviour is also required. Thus, it may be worthwhile to recall here some basic facts.

As far as the behaviour of interest rates is concerned, there is now ample evidence that nominal interest rates do not fully respond to the expected rate of inflation. Instead, almost the opposite seems to be true.[173] Interest rates seem to be cyclical, at least to some extent. Moreover, increased liquidity, particularly in the short run, has a negative effect on nominal interest rates. Finally, and perhaps most important, interest rates do not seem to adjust immediately, as the efficiency proposition, for instance, would require. This means that a decrease in the rate of inflation will lead to a rise in real rates. Only in the very long run is this non-neutrality effect likely to disappear.[174]

As far as the behaviour of inflation is concerned, it is well known that the rate of inflation is not very much affected by ac-

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[168] See M. Friedman, "Nobel Lecture: Inflation and Unemployment", *Journal of Political Economy*, June 1977, pp. 451-472, and P. Evans, "Price Level Instability and Output in the U.S.", *Economic Inquiry*, April 1983, pp. 172-187. Obviously, increased inflation not only increases relative price uncertainty, but it also increases uncertainty about real income. Also this effect may tend to decrease consumer spending. As far as the theoretical background is concerned, the implicit "super-neutrality" property of the underlying macro-model might be abandoned to exploit the theories which imply permanent effects of inflation on output. For such theories, see J. Tobin, "Money and Economic Growth", reprinted in J. Tobin (ed.), *Essays in Economics*, vol. 1: Macroeconomics, 1971, Amsterdam, North Holland, and A. C. Stockman, "Anticipated Inflation and the Capital Stock in a Cash-in-Advance Economy", *Journal of Monetary Economics*, vol. 8, No. 3, November 1981, pp. 387-393. In this connection, it should be pointed out that even though the "real balance effect" provides a suitable explanation of the inflation effects, the asset base of this effect may be very small and the resulting effect may, in fact, be negligible; see, e.g., D. Patinkin, "Money and Wealth: A Review Article", *Journal of Economic Literature*, Vol. VII December 1969, pp. 1140-1160.

[169] As far as the lag structure is concerned, a Houthakker-Taylor-type specification was fitted to the data instead of the stochastic difference equation with the Koyck lag structure, which is the basic element of equation (1). However, this did not make any considerable difference to the estimates of the long-run elasticities. A summary of these results is presented in appendix 1.

[170] Even though there seems to have been few changes in the parameters, the computed Chow statistics allow the hypothesis of parameter invariance to be rejected, although not very strongly. Thus, there is a further reason for caution. If, instead, the stability of the coefficient of the real interest rate variable is tested by allowing it to change over time according to a linear trend, the respective coefficient does not deviate from zero at any of the standard levels of significance. Thus, given the model, the interest rate effect appears to be stable. (See appendix 2 for further details on the stability properties and forecasting performance of the basic model.)

[171] See appendix 3 for a brief discussion of this point.

[172] A similar result is obtained in various other studies; see V. Zarnowitz, "Recent Work on Business Cycles in Historical Perspective: A Review of Theories and Evidence", *Journal of Economic Literature*, vol. XXIII, June 1985, pp. 523-580.

[173] This point is forcefully stressed by J. Carmichael, and P. W. Stebbing, "Fisher's Paradox and the Theory of Interest", *American Economic Review*, September 1983, pp. 619-630.

[174] In order to suggest the quantitative importance of these factors, the following nominal interest rate equation was estimated from the pooled cross-country data:

$$\begin{array}{llllll}
(W)\ RL = & \text{10 country dummies} & & & & \\
 & & +0.063\,p^e & +0.113\,y & -0.020\,m & +0.947\,RL(-1) \\
 & & (5.03) & (5.43) & (1.74) & (76.40) \\
 & & \multicolumn{4}{l}{SEE = 0.0063,\ D-W = 2.199}
\end{array}$$

$$\begin{array}{llllll}
(UW)\ RL = & \text{10 country dummies} & & & & \\
 & & +0.041\,p^e & +0.059\,y & -0.019\,m & +0.947\,RL(-1) \\
 & & (3.77) & (3.59) & (1.99) & (75.68) \\
 & & \multicolumn{4}{l}{SEE = 0.0062,\ D-W = 2.026,}
\end{array}$$

where the symbols are the same as defined above but where lower case letters refer to rates of change, and p^e is derived from the VAR(4) model. Numbers in parentheses below the estimated coefficients are t-ratios, the estimates are OLS estimates, and the number of observations is 650. Lags, in quarters, are given in brackets after the relevant variable. The results with short-term rates (for the sample of six countries) are very similar to those presented above.

TABLE 2.9.4

Granger causality test results for output, inflation, interest rate and money

	yp	*t*	*RL*	*t*	*p*	*t*	*m*	*t*	*yp*	*t*	*RL*	*t*	*p*	*t*	*m*	*t*
Lagged variables																
yp(−1)	−0.023	0.51	0.002	0.07	0.153	1.64	0.228	3.19	−0.023	0.52	0.001	0.06	0.159	1.64	0.227	3.18
yp(−2)	−0.005	0.10	0.050	2.27	−0.134	1.43	−0.117	0.16	−0.005	0.11	0.050	2.27	−0.135	1.44	−0.013	0.17
yp(−3)	0.071	1.51	−0.017	0.74	0.207	2.17	−0.000	0.00	0.071	1.53	−0.016	0.71	0.209	2.19	0.001	0.02
yp(−4)	0.051	1.16	0.019	0.90	0.183	2.01	−0.064	0.92	0.054	1.23	0.024	1.12	0.191	2.10	−0.057	0.82
RL(−1)	0.106	1.24	0.912	22.52	0.846	4.88	−0.452	3.41	0.095	1.11	0.896	22.18	0.819	4.70	−0.476	3.57
RL(−2)	−0.245	2.11	0.034	0.62	−0.300	1.26	0.188	1.04	−0.245	2.11	0.034	0.62	−0.300	1.27	0.187	1.04
RL(−3)	−0.118	1.03	0.118	2.13	−0.057	0.24	0.640	3.54	−0.120	1.04	0.116	2.12	−0.060	0.25	0.637	3.53
RL(−4)	0.189	2.18	−0.112	2.71	−0.410	2.31	−0.410	3.02	0.172	1.94	−0.138	3.31	−0.454	2.52	−0.448	3.25
p(−1)	0.041	1.88	0.131	1.25	0.240	5.36	−0.106	3.10	0.040	1.83	0.012	1.13	0.237	5.31	−0.108	3.16
p(−2)	0.035	1.58	0.180	1.68	0.203	4.45	−0.030	0.86	0.035	1.58	0.018	1.68	0.203	4.44	−0.030	0.87
P(−3)	0.006	0.27	−0.005	0.47	0.091	1.98	0.040	1.12	0.006	0.27	−0.005	0.50	0.091	1.97	0.393	1.12
p(−4)	0.021	0.99	−0.008	0.74	0.097	2.21	0.127	3.81	0.020	0.91	−0.010	0.97	0.093	2.12	0.124	3.71
m(−1)	0.100	3.96	0.031	2.57	0.160	3.10	−0.244	6.19	0.098	3.88	0.028	2.37	0.155	3.01	−0.248	6.28
m(−2)	0.014	0.54	0.006	0.48	0.001	0.15	0.087	2.12	0.011	0.42	0.001	0.12	−0.007	0.13	0.080	1.94
m(−3)	0.055	2.12	0.023	1.87	0.022	0.42	0.193	4.76	0.050	1.92	0.017	1.33	−0.011	0.20	0.183	4.47
m(−4)	0.094	3.70	0.015	1.21	0.075	1.45	0.044	1.10	0.091	3.53	0.010	0.78	0.066	1.27	−0.036	0.90
TIME									0.005	1.13	0.007	3.54	0.012	1.39	0.011	1.59
X^2	55.58		43.06		72.96		52.10		55.10		37.16		73.74		52.44	
SEE	0.0132		0.6338		0.0271		0.0208		0.0133		0.6281		0.0271		0.0207	
D−W	2.034		2.000		1.985		1.984		2.032		2.006		1.988		1.980	

Note: The displayed numbers are the coefficients of VAR(4) regressions for the change rates of nominal output, yp, the narrow concept of money, m, and the GDP deflator, and for the nominal long-term rate of interest, RL. X^2 indicates the LR test statistics for the lagged values of the causal candidates. t-ratios are next to the coefficient estimates. Equations also include country intercepts which are not displayed. The sample period is 1965.II-1983.IV. The critical value of the chi-square statistic at the 5 per cent level of significance is 21.00. When this analysis was carried out in terms of real variables, the results were qualitatively almost identical and, in order to save space, are not displayed here.

tual demand and supply conditions in the commodity and labour markets. Instead, various spillovers from the monetary sector and, in addition, international commodity price developments are probably more important. [175]

Given all this, it is obvious that real interest rates convey the effects of various macro-economic shocks, the important fact being that the duration of the effects is rather long. Previous studies have clearly indicated that it does make a difference whether or not real rates are constant over time (the fact that real rates are not constant over time is clearly evident from the basic data). [176] Altogether, the raw material price and interest rate shocks constitute a real problem which presumably has different implications, in terms of the content and usefulness of economic policy, than pure monetary disturbances and the resulting temporary cyclical movements in real series. In the current situation, these conclusions seem to be especially relevant. If raw material prices continue to fall (due to dollar depreciation) and if monetary policy continues to be relatively tight, the rate of inflation will continue to fall. This, in turn, might have a direct and positive effect on output, as suggested by the empirical results in tables 2.9.1-2.9.3. Lower raw material prices, and particularly lower fuel prices, would also have a direct, positive effect on output in the same way as a fall in the rate of inflation. But a general decline in the rate of inflation and of inflationary expectations would not, at least in the short run, cause nominal interest rates to fall *pari passu*. This is even more likely because the direct effect of monetary policy, via the growth rates of the monetary aggregates, will not contribute to the decrease in nominal rates, rather the opposite will be true. Thus, there is a possibility that real interest rates will stay high, or even increase, constituting an obstacle to higher economic growth in the medium term.

APPENDIX I

Comparison of results between a stochastic difference equation (1) and a Houthakker-Taylor specification

In the case of the Houthakker-Taylor specification the lagged right-hand side variables of equation (1), except Y(−1) and TIME, were introduced as additional regressors. To save space, only the implied long- run elasticities (or semi-elasticities in the case of r and p^e) for X, SS, GA, r and p^e are displayed. The sample period is 1963.III-1983.IV; cross-country data are used in all cases.

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[175] The quantitative magnitude of these factors may be evaluated by computing some OLS estimates for the following simple inflation rate equation:

$$\begin{array}{lllll} \text{(W) } p = 10 \text{ country dummies} & & & & \\ & +0.086\,s & +0.030\,m & +0.188\,y(-3) & +0.561\,p(-1) \\ & (4.39) & (0.55) & (1.96) & (17.17) \\ & \text{SEE} = 0.0301,\ D-W = 2.384 & & & \end{array}$$

$$\begin{array}{lllll} \text{(UW) } p = 10 \text{ country dummies} & & & & \\ & +0.158\,s & +0.139\,m & +0.358\,y(-3) & +0.289\,p(-1) \\ & (5.19) & (1.91) & (2.91) & (7.75) \\ & \text{SEE} = 0.0479,\ D-W = 2.225, & & & \end{array}$$

where the symbols are the same as in the previous footnote.

[176] What is important here is the possibility that interest rates adjust more sluggishly than prices. Obviously, it is not easy to test this proposition directly. One experiment carried out was to regress the real interest rate and the rate of inflation against the same set of variables, i.e., y, m, s, g, TIME, r(−1), and p(−1), and so obtain estimates for the matrix of partial adjustment coefficients: these suggest that the speed of adjustment of inflation is indeed faster than that of the real interest rate.

Actual rate of inflation as a proxy for p^e

	Stochastic difference equation		Houthakker-Taylor specification	
	(W)	(UW)	(W)	(UW)
X	0.213	0.376	0.082	0.271
SS	−0.165	−0.081	−0.164	−0.082
GA	0.089	0.379	0.028	0.348
r	−1.289	−1.009	−1.695	−1.464
p^e	−2.053	−1.319	−2.782	−1.601

VAR(4) prediction as a proxy for p^e

	(W)	(UW)	(W)	(UW)
X	0.298	0.403	0.116	0.294
SS	−0.199	−0.094	−0.125	−0.094
GA	0.130	0.388	0.064	0.347
r	−0.622	−0.607	−1.046	−1.239
p^e	−2.768	−1.526	−2.961	−1.787

APPENDIX 2

Testing the forecasting power of equation (1)

The forecasting power and structural stability of the basic equation (1) was tested with respect to the period after 1979.II (which roughly corresponds to the time when monetary policy rules changed in some of the larger market economies). The equation was estimated from the sample period 1965.II-1978.IV, and used to forecast the period 1979.II- 1983.IV. Forecasting was performed by using dynamic simulation.

There is not enough space to present all the results here. Hence, only the results for a couple of representative equations are reported. The results with other specifications were qualitatively very similar.

First of all, the following OLS estimates were obtained for this new sample period 1965.II-1978.IV:

$$\begin{array}{lll} (W)\ Y = 10 \text{ country dummies} & & \\ & +0.900\ Y(-1) & +0.015\ X \\ & (41.80) & (2.11) \\ & -0.015\ SS & -0.116\ r \\ & (4.00) & (1.67) \\ & -0.218\ p^e & +0.025\ GA \\ & (3.98) & (1.91) \\ & +0.069\ TIME & \\ & (4.08) & \end{array}$$

$SEE = 0.0120,\ D-W = 1.980$

$$\begin{array}{lll} (UW)\ Y = 10 \text{ country dummies} & & \\ & +0.867\ Y(-1) & +0.057\ X \\ & (39.80) & (6.21) \\ & -0.018\ SS & -0.195\ r \\ & (4.42) & (2.87) \\ & -0.250\ p^e & +0.062\ GA \\ & (4.56) & (3.46) \\ & -0.011\ TIME & \\ & (0.56) & \end{array}$$

$SEE = 0.0146,\ D-W = 2.171,$

where p^e is derived from the VAR(4) model. The following statistics were computed to check the forecasting power of these equations:

	(W)	(UW)
Correlation coefficient (between actual (A) and forecast (F) values)	1.000	1.000
Root-Mean-Square Error	0.0158	0.0164
Mean Absolute Error	0.0117	0.0125
Mean Error (A − F)	−0.0040	0.0068
Theil's Inequality Coefficient	0.0022	0.0023
Fraction of forecast error due to		
— bias	0.0642	0.1721
— different variation	0.0001	0.0088
— different co-variation	0.9357	0.8192
Janus Quotient	1.1052	1.1508
z(190) stability test statistic	214.04	251.79

(The properties of these statistics are discussed in A. Koutsoyiannis, *Theory of Econometrics*, 2nd edition, 1978, London, Macmillan Press. The z(k)-statistic is used in J. E. H. Davidson, D. F. Hendry, F. Srba, and S. Yeo, "Econometric Modelling of the Aggregate Time-Series Relationship between Consumers' Expenditure and Income in the United Kingdom", *Economic Journal*, vol. 88, December 1978, pp. 661-692. The statistic is distributed as the Chi Square with 190 degrees of freedom so that the critical value at the 5 per cent level of significance is 258.96.)

Clearly, the forecasting performance of these specifications is very good. Moreover, the values of the Janus Quotient and the z(190) statistics indicate that equation (1) does not suffer from structural instability in terms of the period after 1979.II. This, in turn, suggests that the results thus far obtained are not extremely sensitive to the presumed changes in the monetary policy rules.

APPENDIX 3

Some analyses of the time-series properties of the output variable

The estimation results for the period after 1974 seem to suggest that the output variable might follow a random walk with drift. This, in turn, suggests that the respective series cannot be characterized by a deterministic growth component and by a stationary ARIMA process as the cyclical component, but that the growth component itself is stochastic. This view is forcefully advocated in C. Nelson and C. I. Plosser, "Trends and Random Walks in Macro-economic Time Series", *Journal of Monetary Economics*, vol. 10, 1982, pp. 139-162: they find strong support for this view from US time series. In order to find out whether this property also holds for the data of this study, some preliminary tests were carried out. First, the OLS estimation results of the relevant autoregressive model, based on the pooled data for the whole period, were as follows:

$$
\begin{array}{lll}
\text{(W) } Y = 10 \text{ country dummies} & & \\
 & +0.936\ Y(-1) & +0.047\ dY(-1) \\
 & (79.05) & (1.22) \\
 & +0.101\ dY(-2) & +0.076\ dY(-3) \\
 & (2.57) & (1.89) \\
 & +0.061\ dY(-4) & +0.040\ \text{TIME} \\
 & (1.52) & (4.34)
\end{array}
$$

$\text{SEE} = 0.0121$ $\text{D}-\text{W} = 1.987$

$$
\begin{array}{lll}
\text{(UW) } Y = 10 \text{ country dummies} & & \\
 & +0.946\ Y(-1) & -0.159\ dY(-1) \\
 & (86.18) & (4.09) \\
 & +0.033\ dY(-2) & +0.037\ dY(-3) \\
 & (0.84) & (0.94) \\
 & +0.168\ dY(-4) & +0.027\ \text{TIME} \\
 & (4.30) & (3.11)
\end{array}
$$

$\text{SEE} = 0.0147$ $\text{D}-\text{W} = 1.956$

When the unit root hypothesis is formally tested by using the test procedure suggested by D. A. Dickey and W. A. Fuller (see their "Distribution of the Estimators for Autoregressive Time Series with a Unit Root", *Journal of the American Statistical Association*, vol. 74, June 1979, pp. 427-431; and "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root", *Econometrica*, vol. 49, July 1981, pp. 1057-1072), the following results in terms of the tau and psi 3 statistics were obtained for the pooled sample and for a selection of individual countries:

	tau	*psi 3*
All countries, W	5.44*	21.59*
All countries, UW	4.88*	20.51*
Austria	2.71	6.33*
Canada	0.24	3.40
Germany, Fed. Rep. of	1.78	2.30
Finland	2.39	13.60*
France	0.13	4.23
Italy	0.69	4.18
Sweden	2.27	11.85*
Switzerland	2.37	12.86*
United Kingdom	1.76	2.16
United States	3.26	6.22

* Indicates that the test statistic exceeds the corresponding 1 per cent critical value.

Thus, the unit root hypothesis can be rejected at the 1 per cent level of significance when the pooled data are used suggesting that output does not follow a random walk. In contrast, the individual country estimates generally suggest the opposite conclusion, i.e., that output does follow a random walk. (The smaller countries, to some extent, represent conflicting evidence.) On the basis of the latter results it might therefore be concluded that the underlying growth component is itself stochastic. This, in turn, would suggest that macro-economic models which focus on monetary disturbances as a source of purely transitory fluctuations cannot explain a large fraction of the total fluctuations in output. Instead, "real" factors (such as the oil shocks) are needed to explain the behaviour of output. The fact that the growth component itself may be stochastic implies, of course, that the uncertainty as to the long-run rate of growth is considerably larger than would be indicated by deviations from some historical trend.

2.10 ALTERNATIVE MEASURES OF PRODUCTIVITY GROWTH IN THE MANUFACTURING SECTORS OF THE MARKET ECONOMIES

(i) Introduction

The analysis of productivity change generally focuses on labour productivity. However, this measure is only one facet of a wider concept embracing, among other things, capital productivity and total factor productivity (TFP), i.e., output per unit of combined factor inputs. The purpose of this note is to compare changes in labour productivity with changes in total factor productivity in the manufacturing sectors of 13 market economy countries in the ECE region over the last two decades. This is of interest because it can be argued that changes in TFP are a more relevant indicator of changes in economic efficiency than changes in partial factor productivity. Moreover, the concept of TFP is at the heart of the so-called growth accounting exercises, which attempt to allocate changes in output to changes in the quantity of factor inputs on the one hand and "other factors" on the other, the latter including technical change, changes in the skill composition of the labour force, economies of scale, resource allocation, intensity of demand, etc.[177]

This note is organized as follows: in the following subsection (ii), the concept of TFP is introduced and some basic measurement issues are briefly mentioned. This is followed in subsection (iii) by a more rigorous analytical derivation of the concept of TFP and its relation to the partial factor productivities. In subsection (iv) the results of the calculations are presented. A feature of the calculations is that they are based on the so-called Törnqvist index which can be shown to be superior to other formulae. No attempt is made here to provide an explanation of the observed changes in productivity growth.[178]

(ii) Some measurement issues

(a) General considerations

The measurement of productivity change requires statistical time series on the value of real net output on the one hand and the quantity of factor inputs used in the production of this output, on the other. In general, the focus of productivity analysis is on partial factor productivity, i.e., output in relation to either labour or capital. While these partial measures of labour or capital productivity are important indicators, it is evident that their development over time always mirrors the interplay of all factor inputs involved in the production process. Thus the productivity of labour depends on the efficiency of the machinery and equipment installed and the productivity of capital depends *inter alia* on the skills of the work force. In a similar vein, increases in labour productivity may not be the result of a greater efficiency of workers *per se*, but rather the consequence of the effects of the substitution of capital for labour in the production of a given level of output.

In order to obtain an efficiency measure of production it is therefore important to relate changes in output to changes in *total* factor inputs, i.e., capital and labour combined. This measure—output divided by a weighted average of capital and labour—is usually called *total* factor productivity. The term *multi*factor productivity[179] is also used on the grounds that besides capital and labour there exist other "production factors", for example, research and development expenditures, that are generally not explicitly considered in the calculation of total factor productivity indices.

Clearly, movements in total factor productivity are interesting because they show how the output that can be obtained from a given bundle of inputs changes over time. Changes in total factor productivity are also important in analysing the factors behind changes in labour productivity. In fact, the latter can be shown to reflect changes in capital-intensity on the one hand and total factor productivity on the other.

(b) Measuring total factor productivity

In order to calculate total factor productivity indices, capital and labour need to be combined with an appropriate set of weights. These weights are generally the respective factor shares in total cost.[180] Total cost here is defined as gross value added at factor cost, which in turn is the sum of the compensation of employees (labour costs) and gross operating surplus (capital costs). However, in calculating these shares an adjustment was made for the wage-income of the self-employed: it was assumed that the wage-income of the self-employed was equal to the average compensation per employee in total manufacturing industry.[181]

There remains the issue of the measurement of the factor inputs themselves. *Labour input* is measured for all countries by a time series on hours worked. The exception is Austria for which no reliable series for this variable could be obtained: in this case, labour input is measured by the total number of persons employed.

Clearly, a series on hours worked is preferable to a series on persons employed because the former provide a more reliable picture of changes in effective labour input. Thus, for example, the average hours worked per week by an employee have declined significantly over the period examined here. Moreover, there is an increasing number of persons working part-time but who, in the series of persons employed, receive the same weight as a full-time employee.

The measurement of *capital input* is much less straightforward. Basically, two different measures exist, the gross and the net capital stock. Both series are compiled on the basis of the so-called perpetual inventory method, which accumulates investments from a given benchmark year value. However, the gross stock assumes that the services of a specific investment vintage remain unchanged until the end of its assumed service life (when the vintage is retired from the stock). In contrast, the net stock is compiled on the assumption that the efficiency of capital declines over the lifetime of a capital good and therefore a corresponding amount for depreciation is deducted.

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[177] For a recent survey of various growth accounting methods, see J. R. Norsworthy, "Growth Accounting and Productivity Measurement", *The Review of Income and Wealth*, No. 3, September 1984, pp. 309-329.

[178] This has been done by the ECE secretariat in previous studies published in United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, pp. 36-53, and *Economic Survey of Europe in 1983*, New York, 1984, pp. 55-69.

[179] This is the term used by the US Bureau of Labor, which started to compile series on multifactor productivity on a regular basis in 1983. See Jerome A. Mark and William H. Waldorf: "Multifactor productivity: A New BLS Measure", in *Monthly Labor Review*, December 1983, pp. 3-11.

[180] See subsection (iii) below on this point.

[181] Any such adjustment is necessarily *ad hoc* given the lack of any precise information on this "wage component" of the gross operating surplus.

There is some disagreement in the literature as to which of these two capital stock measures is more appropriate in the context of productivity investment. Some researchers prefer the net concept, others the gross, and some even use a weighted average of the two. In the calculations reported below the real gross stock has been used because it is generally believed to be closer to the concept of productive capacity which is relevant here. [182]

An important issue that has featured prominently in productivity analysis over the last few years is the question of the proportionality between the stock of capital and the flow of capital services and, related to this, the assumed length of service lives of capital goods entering the capital stock.

It is widely suspected that the energy price shocks of the 1970s, together with changes in international competitiveness, have made part of the existing equipment prematurely obsolete. To the extent that existing capital stock measures do not take this accelerated rate of scrapping into account—because they are compiled on the assumption of a given, constant service life of capital goods—they would correspondingly overestimate the existing stock, underestimate the rise in capital productivity and overstate the slowdown in total factor productivity growth. This is a highly complex theoretical and empirical issue [183] that has not yet been resolved. It may also be argued, for example, that these energy price shocks have probably had a more significant effect on capital goods that were in any case close to retirement and that therefore the total effect is likely to be negligible. [184]

Another relevant issue is the following: when measuring the capital input into the production process the assumption is generally made that the flow of capital services into the production of output is proportional to the available capital stock. This assumption is often made *faute de mieux*. What is really needed is a time series on "machine hours", but such data are not available and, hence, it is not possible to distinguish between changes in capital stock and changes in the utilization of a given stock. The latter, however, may be important and are brought about by increasing shift work, increases in the importance of continuous production processes and in the efficiency with which fixed capital is used [185] and, last but not least, fluctuations in the level of demand for goods.

Clearly, in calculating total factor productivity and, of course, capital productivity, it can make a substantial difference whether a statistical measure of capital installed or of capital effectively used is employed. It should therefore be noted that in the calculations reported below the effects of changes in machine hours show up as part of the changes in total factor productivity. [186] The point to emphasise here is that this is not a trivial matter, *inter alia*, because changes in the utilization of a given stock of equipment (for example, because of more shift work) can themselves be seen as resulting from the economic parameters (prices and costs) facing the firm. [187] To come somewhat closer to the concept of capital used, however, the available capital stock series used in this note has been multiplied by an index of capacity utilization in manufacturing industry. [188] Unfortunately, such an index is not available for all the countries covered and therefore the productivity growth rates are shown with and without the adjustment for changes in utilization rates.

(iii) An analytical derivation of total factor productivity

The analysis of changes in total factor productivity is rooted in the theory of cost and production. Denoting real output by Y, labour input by L, capital input by K and the effects of neutral disembodied technical change by A(t), the aggregate production function (for, say, manufacturing industry) can be expressed in a general form as:

(1) $Y = A(t)\, f(K,L)$

It is furthermore assumed that the production technology can be characterized by constant returns to scale.[189] Differentiating (1) logarithmically with respect to time gives:

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[182] "While both concepts have their uses, it is the gross stock which corresponds to productive capacity and which therefore features prominently in empirical studies of production and investment." See M. Sumner, "A Note on Replacement Investment", *Oxford Bulletin of Economics and Statistics*, vol. 47, No. 4, 1985, pp. 395-400.

[183] See, e.g., Martin N. Baily, "Productivity and the Services of Capital and Labor", *Brookings Papers on Economic Activity*, No. 1, 1981, pp. 1-50; E. R. Berndt and D. O. Wood, "Energy Price Changes and the Induced Revaluation of Durable Capital in U.S. Manufacturing During the OPEC Decade", *MIT Energy Laboratory Report* No. 84-003, Massachusetts Institute of Technology, Center for Energy Policy Research, March 1984, and Erik Biorn, "Energy Price Changes and Induced Scrapping and Revaluation of Capital — A Putty-Clay Approach", *Central Bureau of Statistics, Norway* (Mimeo), July 1985.

[184] All this illustrates the intricacies surrounding the compilation of capital stock series, and Solow's remark that "the capital time series is the one that will really drive a purist mad." See R. M. Solow, "Technical change and the aggreate production function", *Review of Economics and Statistics*, vol. 39, 1957, pp. 312-320.

[185] See Murray F. Foss, "The Utilization of Capital Equipment: Postwar compared with Prewar", *Survey of Current Business*, vol. 43, No. 6, June 1963, pp. 8-16, and by the same author: "Long-Run Changes in the Workweek of Fixed Capital, *The American Economic Review*, vol. 71, No. 2, May 1981, pp. 58-63.

[186] This utilization issue figured prominently in the famous exchange between Griliches/Jorgenson and Denison in the late 1960s. The former had used data on electric power use to adjust the capital stock for changes in utilization and found that the contribution of total factor productivity to increases in output in the United States had been much smaller than generally assumed. See D. W. Jorgenson and Z. Griliches, "The explanation of productivity change", *Review of Economic Studies*, vol. 34, 1967, pp. 249-283, and Edward F. Denison: "Some Major Issues in Productivity Analysis: An Examination of Estimates by Jorgenson and Griliches". in *Survey of Current Business*, vol. 49, No. 5, Part II, May 1969, pp. 1-27. It is only fair to say that this utilization debate has not really been settled. For an alternative way of adjusting capital stock for variations in capacity utilization rates employing modern duality theory see E. R. Berndt and M. A. Fuss, "Productivity Measurement with Adjustment for Variations in Capital and Capacity Utilization", *NBER Working Paper Series*, Working Paper No. 8995, National Bureau of Economic Research, Cambridge, MA, May 1982. An empirical application in the productivity context to several west European countries can be found in E.R. Berndt and Dieter M. Hesse, "Measuring and Assessing Capacity Utilization in the Manufacturing Sectors of Nine OECD Countries", *Working Paper* No. 85-012WP, Massachusetts Institute of Technology, Center for Energy Policy Research, June 1985.

[187] See Gordon C. Winston, "The Theory of Capital Utilization and Idleness", in *Journal of Economic Literature*, vol. XII, December 1974, pp. 1301-1320, and Walter Y. Oi, "Slack Capacity: Productive or Wasteful?", *The American Economic Review*, vol. 71, No. 2, May 1981, pp. 64-69, and Robin Morris, *The Economics of Capital Utilization*, Cambridge University Press, 1964.

[188] This is obviously a rather crude adjustment, but preferable to none at all.

$$(2)\quad \frac{d\log Y}{dt} = \frac{\partial \log Y}{\partial \log K} \cdot \frac{d\log K}{dt} + \frac{\partial \log Y}{\partial \log L} \cdot \frac{d\log L}{dt} + \frac{\partial \log Y}{\partial \log A} \cdot \frac{d\log A}{dt} \quad \text{or}$$

$$(3)\quad \frac{\dot{Y}}{Y} = \frac{\partial \log Y}{\partial \log K} \cdot \frac{\dot{K}}{K} + \frac{\partial \log Y}{\partial \log L} \cdot \frac{\dot{L}}{L} + \frac{\partial \log Y}{\partial \log A} \cdot \frac{\dot{A}}{A}$$

where a dot over a variable indicates a time derivative.

In equations (2) and (3) $\partial \ln Y/\partial \ln K$ and $\partial \ln Y/\partial \ln L$ are the output elasticities of capital and labour respectively, that is, they indicate, *ceteris paribus*, the percentage change in output associated with a one per cent change in the use of either capital or labour. Under conditions of perfect competition these output elasticities can be shown to be equal to the relative factor cost shares. Denoting these cost shares by a_K (for capital) and a_L (for labour) and setting $\partial \log Y/\partial \log A$ (a scaling factor) equal to 1 gives:

$$(4)\quad \frac{\dot{Y}}{Y} = a_K \cdot \frac{\dot{K}}{K} + a_L \cdot \frac{\dot{L}}{L} + \frac{\dot{A}}{A}$$

Equation (4) is the standard growth accounting formula which indicates that total output growth is equal to the sum of the appropriately weighted growth rates of factor inputs and a residual term ($\dot{A}/A$). This latter term catches the effects of all the factors influencing output growth other than capital and labour: it is often referred to as a "measure of our ignorance". Alternatively, this "residual" has been defined as total factor productivity growth (TFP). It can be obtained, by rearranging equation (4), as the difference between total output growth and aggregate factor input growth:

$$(5)\quad \frac{\dot{A}}{A} = \frac{\dot{Y}}{Y} - \left(a_K \cdot \frac{\dot{K}}{K} + a_L \frac{\dot{L}}{L}\right)$$

Under conditions of constant returns to scale the cost shares, a_K and a_L, always sum to unity, which implies that $a_K \cdot \dot{Y}/Y + a_L \cdot \dot{Y}/Y = \dot{Y}/Y$. By substituting this latter expression into (5) total factor productivity growth can be seen to be the weighted average of changes in capital productivity and labour productivity:

$$(6)\quad \frac{\dot{A}}{A} = a_K\left(\frac{\dot{Y}}{Y} - \frac{\dot{K}}{K}\right) + a_l\left(\frac{\dot{Y}}{Y} - \frac{\dot{L}}{L}\right)$$

The first term on the right-hand side of (6) represents the growth rate of capital productivity and the second the growth rate of labour productivity (weighted by their corresponding cost shares).

Equation (6) is also useful for the analysis of changes in labour productivity. Recalling that $a_L = (1 - a_K)$ and rearranging, it follows that, in this accounting framework, changes in labour productivity are equal to changes in the capital-labour ratio (weighted by the cost share of capital) and in total factor productivity growth:

$$(7)\quad \left(\frac{\dot{Y}}{Y} - \frac{\dot{L}}{L}\right) = a_K\left(\frac{\dot{K}}{K} - \frac{\dot{L}}{L}\right) + \frac{\dot{A}}{A}$$

Equation (7) shows, *ceteris paribus*, that an increase in the capital-labour ratio is associated with an increase in labour productivity. Hence the importance of capital formation—in the pure accounting context—for the promotion of productivity growth. However, as equation (7) is essentially a rearrangement of (6), it is appropriate to exercise some caution when interpreting changes in the K/L ratio and the rate of TFP growth as "causing" changes in the growth of labour productivity.[190]

Two features of equation (6) are noteworthy. First, the expression for TFP-growth has been derived without specifying the functional form of the underlying production process. It has only been assumed that there are constant returns-to-scale and that technical change is of the Hicks-neutral form.[191]

Second, the rate of change of total factor productivity in (6) is expressed in continuous form (using time derivatives) and the continuous TFP-index is given by the so-called Divisia Integral Index.[192] However, as output, capital and labour are not observable in continuous form but only over discrete time intervals, the calculations reported below are based on a discrete approximation to the continuous Divisia index by employing the Törnqvist Index formula:[193]

$$(8)\quad \log A_t - \log A_{t-1} = (\log Y_t - \log Y_{t-1}) - \bar{a}_{Kt}(\log K_t - \log K_{t-1}) - \bar{a}_{Lt}(\log L_t - \log L_{t-1})$$

where $\bar{a}_{Kt}$ and $\bar{a}_{Lt}$ are the arithmetic means of the cost shares for capital and labour respectively, in periods t and t − 1.

It may be asked why it is preferable to use the Törnqvist index rather than employ, for example, the traditional Cobb-Douglas accounting framework with constant weights. The latter would be appropriate if the underlying production technology is indeed Cobb-Douglas, i.e., characterized by an elasticity of substitution between factor inputs which is equal to one. However, this is not known *a priori* and would itself have to be estimated. Clearly, if the production technology is not Cobb-Douglas then any productivity index derived from this production function would yield biased results. In the absence of any precise information about the "type" of production technology in the manufacturing sectors of the countries covered here, it is preferable to choose a productivity index that corresponds, so to speak, to a production function of a very flexible form. This is, indeed, the case for the Törnqvist index.[194]

Finally, it should be noted that the use of discrete approximations to the continous Divisia index of total factor productivity has a long tradition in the analysis of productivity changes and can be traced back to the well-known growth accounting studies of Solow[195] and Jorgenson/Griliches.[196]

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[189] This means that a doubling of *all* inputs will lead to a doubling of output.

[190] See E. R. Berndt, "Energy Price Increases and the Productivity Slowdown in United States Manufacturing", in *The Decline in Productivity Growth, Proceedings of a Conference held at Edgerton, Massachusetts*, June 1980, The Federal Reserve Bank of Boston, Conference Series, No. 22, pp. 60-89.

[191] This means essentially that technical progress is not "biased" towards one input, i.e., it affects all factors equally.

[192] See R. G. D. Allen: *Index Numbers in Theory and Practice*, London 1975, pp. 178-182.

[193] See L. Törnqvist, "The Bank of Finland's consumption price index", *Bank of Finland Monthly Bulletin*, No. 10, 1936, pp. 1-8.

[194] See W. E. Diewert, "Exact and Superlative Index Numbers", *Journal of Econometrics*, vol. 4, 1976, pp. 115-145. In Diewert's terms the Törnqvist index is a "superlative" index because it is "exact" if the production function is linearly homogeneous and of the so-called Translog type, i.e., a second order approximation to an arbitrary linear homogeneous function. See also D. W. Caves, L. R. Christensen and W. E. Diewert, "The Economic Theory of Index Numbers and the Measurement of Input, Output and Productivity", *Econometrica*, vol. 50, No. 6, 1982, pp. 1393-1414.

[195] See R. Solow, *op. cit.*

[196] D. W. Jorgenson and Z. Griliches, *op. cit.*

TABLE 2.10.1

Changes in total factor productivity in total manufacturing industry
(I: without capacity utilization adjustment; II: with capacity utilization adjustment)
(Average annual rates of growth)

				Selected sub-periods				
		1961-1973	*1973-1983*	*1961-1965*	*1965-1969*	*1969-1973*	*1973-1979*	*1979-1983*
Austria[a]	I	4.0	2.1	..	5.2	3.4	2.4	1.5
	II	..	2.4	..	..	3.3	2.6	2.1
Belgium[b]	I	5.6	4.5	3.3	5.1	7.5	4.9	4.0
	II	5.5	4.8	3.1	4.7	7.6	5.3	4.1
Canada	I	3.8	0.2	4.3	3.3	3.9	1.1	−1.2
	II	3.3	1.0	2.9	3.4	3.5	1.5	0.4
Denmark[c]	I	5.8	2.9	..	5.3	6.2	3.0	2.5
	II	..	..	..	..	..	..	..
Finland	I	3.8	2.5	3.0	4.8	3.6	2.1	3.1
	II	..	..	..	..	..	..	..
France[b]	I	5.1	2.9	5.4	5.9	4.1	3.3	2.3
	II	4.9	3.3	5.6	5.4	3.9	3.7	2.6
Germany, Fed. Rep. of	I	3.9	2.3	4.0	4.4	3.1	3.0	1.2
	II	3.9	2.6	4.0	4.2	3.3	3.2	1.6
Italy	I	6.5	2.4	5.8	7.4	6.3	2.6	2.0
	II	..	2.6	..	..	6.6	2.6	2.5
Netherlands	I	4.2	2.9	2.3	4.8	5.6	3.4	2.2
	II	..	3.1	..	..	..	3.7	2.3
Norway[b]	I	3.9	0.6	4.3	4.3	3.4	0.5	0.7
	II	..	..	..	..	..	..	..
Sweden[b]	I	5.0	1.8	6.7	5.5	3.7	1.6	2.1
	II	..	..	..	..	..	..	..
United Kingdom	I	2.9	1.2	2.7	2.8	3.2	0.6	2.1
	II	..	1.4	..	..	3.3	0.7	2.6
United States	I	3.2	0.8	5.2	1.0	3.4	0.8	0.9
	II	2.9	1.1	4.2	1.3	3.3	0.8	1.6

Notes: For the method of calculation of total factor productivity, see text.

[a] 1964 instead of 1961 and 1982 instead of 1983.

[b] 1963 instead of 1961.

[c] 1966 instead of 1961 and 1981 instead of 1983.

(iv) Results

(a) Total factor productivity

Table 2.10.1 shows average annual growth rates of total factor productivity (TFP) for different sub-periods of the last two decades. The general feature for all countries is a strong decline in TFP-growth after 1973. After 1973 rates of growth are 40 per cent and more below the rates recorded before the oil price shock. There is another noticeable deceleration after 1979 in a number of countries (Austria, Canada, France, the Federal Republic of Germany) but also signs of a return to higher growth rates in others (Finland, Sweden, the United Kingdom and the United States).[197] It would have been desirable to have continued the TFP index until 1984 because this was a year of higher cyclical activity. Unfortunately, this could not be done because the capital stock data for these years are not yet available. The growth rates for 1979-1983 are therefore probably downward biased in comparison with the period 1973-1979. Thus for example, in the United States, the most recent data calculated by the Bureau of Labor Statistics[198] indicate that for the period 1979-1984 the average annual TFP growth was 1.8 per cent, i.e., about twice as high as the rate for 1979-1983 shown in table 2.10.1. This reflects the very strong acceleration in TFP growth in 1983- 1984. In fact, the BLS data show that from 1981 to 1984 TFP rose at an average annual rate of 3.1 per cent, which brings it back to the trend for 1960-1973. These data make the slowdown in productivity growth look like a temporary deviation from its long-run trend and suggest that the factors impinging on the poor productivity performance may have been overcome.

It can be seen that the capital stock utilization adjustment does not on average matter very much. This generally reflects the relatively small variations in capacity utilization rates between the years compared here. The adjustment does, however, make a significant difference in the case of Canada for the period 1979-1983 where a negative growth rate (− 1.2 per cent) is changed to a small but positive rate (0.4 per cent) and for the United States (from 0.9 to 1.6 per cent). In these two countries capacity utilization rates in 1983 were about 15 points (Canada) and 11 points (United States), below their 1979 rates.

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[197] As mentioned above in subsection (ii), for the United States total factor productivity indexes are also calculated by the US Bureau of Labor Statistics (BLS). The BLS estimates, which do not adjust the capital stock for changes in utilization rates, are virtually the same as those in table 2.10.1. The major difference is for the period 1965-1969 when the slowdown in productivity growth indicated by the BLS series (from 5.0 per cent in 1961-1965 to 0.5 per cent in 1964-1969 is somewhat larger than estimated here—from 5.2 to 1.0 per cent). See United States Department of Labor, *Multifactor Productivity Measures*, Bureau of Labor Statistics, Washington, D.C., 3 October 1985.

[198] *Ibid.*

Finally, it is interesting to note that in the United States there was a sharp fall in productivity growth in the second half of the 1960s. It is surprising that this earlier slowdown has received much less attention than the decline after the first oil shock in 1973.

(b) Labour productivity

Changes in labour productivity (measured as output per hour worked) are shown in table 2.10.2. The basic features here are the same as those already observed for the development of total factor productivity. In all 13 countries the growth rates after 1973 are markedly below the average rates for the 1960s and the early 1970s. (As with TFP, however, there was a marked deceleration in labour productivity growth in the United States in the second half of the 1960s.) It is noteworthy that in some countries there was a strong recovery of productivity in the period 1979-1984 (see Finland, Sweden, the United Kingdom and the United States): this probably reflects the stronger growth of output and/or the considerable amount of labour shedding that has occurred in manufacturing industry.

(c) Capital productivity

In some countries there was a relatively large, absolute decline in *apparent* capital productivity after 1973, as can be seen from the negative growth rates in table 2.10.3. This drop is most marked for the years 1979-1983, a reflection mainly of the low levels of output and demand. The importance of the latter is clearly demonstrated when the capital stock is adjusted for changes in utilization rates. This adjustment considerably reduces the decline in productivity levels and in some cases completely offsets the fall in *apparent* capital poductivity. This is most striking for Canada, the Federal Republic of Germany, the United Kingdom and the United States, but also occurs in the other countries. Nevertheless, there remains a relatively strong decline in capital productivity in the United Kingdom and, to a lesser extent, in the Netherlands and the United States even after the capital stock has been adjusted for changes in utilization rates.

TABLE 2.10.2

Changes in labour productivity [a] in total manufacturing industry

			Selected sub-periods				
	1961-1973	*1973-1984*	*1961-1965*	*1965-1969*	*1969-1973*	*1973-1979*	*1979-1984*
Austria	5.7	3.6	4.4	7.6	5.2	3.6	3.6
Belgium	7.4	5.9 [b]	5.0	7.3	9.9	6.5	5.0
Canada	4.7	1.8	4.3	4.8	5.0	2.2	1.3
Denmark	7.5 [c]	3.6	..	7.0	7.8	4.3	2.5
Finland	5.4	4.2	5.0	6.3	4.9	3.7	4.6
France	6.8	4.7	6.7	7.8	6.0	5.2	4.2
Germany, Fed. Rep. of	6.1	3.6	6.7	6.6	5.2	4.3	2.7
Italy	8.1	3.4	8.2	8.2	7.8	3.3	3.6
Netherlands	7.0	4.6 [b]	4.7	7.4	8.9	5.4	3.3
Norway	5.2 [d]	2.2	5.5	5.6	4.5	2.2	2.1
Sweden	6.7 [d]	3.1	8.0	7.4	5.3	2.7	3.6
United Kingdom	4.6	2.5	4.2	4.5	5.1	1.5	3.8
United States	3.5	2.0	4.9	1.6	4.1	1.5	2.6

[a] Output per hour worked. For Austria, output per person employed

[b] 1973-1983.

[c] 1966-1973.

[d] 1963-1973

TABLE 2.10.3

Changes in capital productivity in total manufacturing industry
(I: Apparent capital productivity; II: Adjusted for capital utilization)

				Selected sub-periods				
		1961-1973	*1973-1983*	*1961-1965*	*1965-1969*	*1969-1973*	*1973-1979*	*1979-1983*
Austria	I	0.7	−1.1	..	1.5	0.2	−0.8	−0.3
	II	..	—	..	..	—	−0.3	0.1
Belgium	I	0.4	−1.4	−1.8	−0.3	2.0	−1.5	−1.3
	II	—	−0.3	−1.8	−1.6	2.4	—	−0.8
Canada	I	1.8	−3.0	4.4	0.1	1.1	−1.8	−5.6
	II	0.2	−0.4	0.1	0.4	0.1	−0.3	−0.5
Denmark	I	−0.2	−2.1	..	−0.4	—	−2.2	−2.0
	II	..	..	..	..	..	..	..
Finland	I	0.8	−0.5	−0.6	1.5	1.5	−1.3	0.7
	II	..	..	..	..	..	..	..
France	I	1.5	−1.4	2.1	2.5	0.4	−0.8	−2.2
	II	1.1	−0.3	3.5	1.2	−0.2	0.1	−0.9
Germany, Fed. Rep. of	I	−1.2	−1.1	−1.7	−0.1	−1.7	−0.4	−2.2
	II	−1.1	—	−1.8	−0.6	−1.0	0.1	−0.3
Italy	I	1.6	−0.4	−1.4	5.2	1.1	0.1	−1.2
	II	..	0.5	..	..	2.5	0.3	0.7
Netherlands	I	−1.8	−1.8	−3.0	−1.2	−1.1	−1.8	−1.7
	II	..	−1.1	..	..	..	−1.2	−1.1
Norway	I	0.3	−4.2	1.0	−0.4	0.5	−4.5	−3.7
	II	..	..	..	..	..	..	..
Sweden	I	0.1	−2.4	3.1	—	−1.3	−3.1	−1.5
	II	..	..	..	..	..	..	..
United Kingdom	I	−0.4	−3.3	—	−0.3	−0.8	−3.0	−3.8
	II	..	−2.0	..	..	−0.7	−2.4	−1.4
United States	I	2.2	−2.8	5.9	−0.4	1.3	−1.7	−1.4
	II	1.2	−1.3	2.1	0.5	0.9	−1.4	−1.1

Note: Capital is measured by the real gross capital stock. For Denmark the net stock has been used. Other notes as for table 2.10.1.

Data sources

1. *Output, employment, compensation of employees, gross operating surplus*

AUSTRIA: Oesterreichisches Statistisches Zentralamt, *Oesterreichs Volkseinkommen* 1983:
_______, *Statistische Nachrichten* Nr. 3/1985 and Nr. 8/1985:
Oesterreichisches Institut für Wirschaftsforschung (WIFO), *Monatsberichte*, Nr. 4/1985 and Nr. 8/1985.

Note that for Austria the time series for compensation of employees for 1964-1982 was estimated by the secretariat on the basis of industrial statistics relating to "wage bill" and "supplementary payments" compiled from the "Industrial Statistics" tape of the UN Statistical Office, New York. Note also that for this country total cost is measured as gross value added at market prices and not at factor cost, because data on indirect taxes and subsidies are not available for manufacturing industry.

BELGIUM: EUROSTAT, *National Accounts*, Detailed Tables by Branch, various issues:
____, *Studies on National Accounts*, ESA, 1984:
Structural Data Base, Tables by Branch, 1960-1981
INS, *Communiqué Hebdomadaire*, 7.11.85, No. 2111, *Comptes Nationaux*, 1975-1984.

DENMARK: Danmarks Statistik, *Nationalregnskabsstatistik 1983* (1985).

FINLAND: Central Statistical Office of Finland, *National Accounts 1979-1984*, and earlier issues.

FRANCE: INSEE, *Rapport sur les Comptes de la Nation*, Series C, various issues. Data on compensation of employees for 1960-1981 have been obtained by direct communication from INSEE; the data for 1982 and 1983 are secretariat estimates.

GERMANY, FED. REP. OF: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen*, Reihe S.8, Revidierte Ergebnisse 1960 bis 1984.

ITALY: Istituto Centrale di Statistica:
Annuario di Contabilità Nazionale, Vol. XII, 1983, Tomo I, Banca d'Italia, Assemblea Generale Ordinaria dei Partecipanti, Tenuta in Roma il giorno 31 Maggio 1985, Anno 1984, Novantunesimo Esercizio, *Appendice*.

NETHERLANDS: EUROSTAT, *National Accounts*, ESA, Detailed Tables by Branch, various issues;

	———, *Studies on National Accounts*, No. 4, 1984, Structural Data Base, Tables by Branch 1960-1981; CBS, *Nationale Rekeningen 1984*.
NORWAY:	Central Bureau of Statistics, *National Accounts*, various issues.
SWEDEN:	Statistics Sweden (Statistiska Centralbyran), Statistiska Meddelanden, *National Accounts*, various issues.
UNITED KINGDOM:	Central Statistical Office, *National Accounts*, 1985 edition and 1984 edition; ———, *Economic Trends*, Annual Supplement, 1985 edition: ———, *Economic Trends*, March 1985; EUROSTAT, National Accounts, Detailed Tables by Branch, various issues.
CANADA:	Statistics Canada, *National Income and Expenditure Accounts*, various issues; ———, *Gross domestic product by industry*, May 1985; OECD, *National Accounts*, vol. II, Detailed Tables, 1971-1983, Paris 1985.
UNITED STATES:	U.S. Department of Commerce, Bureau of Economic Analysis, direct communication (for compensation of employees and gross operating surplus); *Survey of Current Business*, July 1985; OECD, *National Accounts*, vol. II, Detailed Tables, 1971-1983, Paris 1985.

2. *Hours worked*

The series on hours worked has been obtained for all countries, except Finland and Sweden, from the U.S. Bureau of Labor Statistics (BLS) *International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984*, 10 June 1985 (table 4). The BLS data relate to all employees for the European countries and have been adjusted by the Secretariat to cover all persons employed. This was done by assuming that a self-employed person works the same number of hours as an employee. For Finland and Sweden the series on hours worked has been taken directly from the corresponding national accounts (see above).

Data on hours worked are not available for Austria.

3. *Capital stock*

Note that for the calculations reported in the text the original capital stock data referring to either the end of the year or the beginning of the year have been transformed to mid-year values by using the formula:

$$K(t) = 0.5\,(K(t) + K(t-1)).$$

AUSTRIA:	F. Hahn, "Neufassung der Wifo-Kapitalstockschätzung für die Industrie und das Gewerbe nach Branchen", Wifo, *Monatsberichte* 8/1983, and direct communication from the Oesterreichisches Institut für Wirtschaftsforschung.
BELGIUM, FRANCE, ITALY, NETHERLANDS:	Direct communication from the Statistical Office of the European Communities (EUROSTAT).
CANADA:	Statistics Canada, *Fixed Capital Flows and Stocks*, various issues.
DENMARK:	Secretariat estimates. Investment series for equipment and structures for 1966-1981 were obtained from the Danish national accounts (see above under 1). A benchmark value for 1970 was taken from a EUROSTAT series calculated for 1970 to 1980. This series was kindly made available by EUROSTAT. The series calculated by the secretariat is essentially a net stock series which does not differ significantly from the EUROSTAT series available for 1970-1980.
GERMANY, FED. REP. OF, NORWAY, SWEDEN:	As above, under 1.
UNITED KINGDOM:	As above under 1 and direct communication from the UK Central Statistical Office.
UNITED STATES:	*Survey of Current Business*, February 1981, October 1982, August 1983 and August 1984.

2.11 EARLY RETIREMENT SCHEMES AND UNEMPLOYMENT

(i) Introduction

Until the late 1960s the prevailing philosophy in most developed market economies was that unemployment was a macro-economic problem which could be solved by altering the level of effective demand, setting appropriate exchange rates and so forth. This view of policy was radically altered in the face of rising inflation which, after the first oil shock, became the major problem confronting governments: monetary and fiscal policies were now redirected to controlling inflation even at the expense of full employment. At the same time the view that deficiencies in the functioning of labour markets were at least partly responsible for the inflation problem gained considerable ground and thereby discredited demand management as an instrument for altering the level of unemployment: an increase in effective demand would not lower unemployment, but would raise the inflation rate. Unemployment policies therefore shifted towards dealing directly with "supply-side" deficiencies in the labour market. This shift in focus was gradual partly because many policy makers in the late 1970s thought that once governments had made it clear that macro-economic policies would not accommodate inflationary pressures, labour markets would quickly adjust and the unemployment effects of disinflation, although possibly severe, would be short-lived. However this optimism proved unjustified and unemployment has climbed persistently (at least in western Europe) through the 1980s. This development, which was widely seen as evidence of a rise in the non-accelerating inflation rate of unemployment (NAIRU), contributed to a more determined attack on the "inflexibilities" of the labour market. This approach has stressed the role of real wages and has led to reforms of trade union laws, the abolition of minimum wage regulations, emphasis on the acquisition of appropriate skills and so on. However, although these measures may be important they do not appear to work very quickly and, some critics have argued, may not work well at all without the support of other policies. Be that as it may, the persistence of high rates of unemployment has increased the social and political pressures on governments to alleviate the effects of unemployment on particular groups such as the young or the long-term unemployed. This has led to an array of measures designed to reduce registered unemployment. Some of these measures, such as wage subsidy schemes, have been intended to raise the demand for labour,[199] but a growing number of initiatives are simply aimed at shrinking the size of the labour force. These include restrictions on immigration and repatriation of foreign workers, the reduction of working time, work-sharing arrangements, increases in the legal school-leaving age, and so on. One widely used method for reducing labour supply (and the active numbers registered as unemployed) is the early retirement scheme.

Early retirement programmes, many of which were initially formulated to achieve social goals rather than labour market equilibrium, consist of several types of measure: (i) early retirement schemes introduced within the framework of social policies in favour of older workers and which have been expanded or more widely advertised during the recession;[200] (ii) other schemes such as disability programmes into which not only health but also economic factors were introduced;[201] (iii) specific measures to promote premature retirement in direct response to the very high rates of unemployment in the 1970s. In practice, however, it is difficult to distinguish between these three categories.

Only incipient in the early 1970s, the trend towards using early retirement and disability programmes as a means of alleviating unemployment gained momentum as unemployment rose and appeared to be little affected by other forms of direct labour market policies. This gradual blurring of the boundaries between the retirement, invalidity and employment objectives of the measures has contributed to the enormous strains placed upon public and private pension systems, while the extent to which the schemes have alleviated unemployment remains controversial.

Following a brief discussion of early retirement programmes in general, an inventory of specific measures in different countries will be presented. The impact of the schemes on the labour force participation of older workers is then examined as well as the magnitude of the programmes. Some of the schemes are then analysed in greater detail and provide the basis for some conclusions concerning the use of early retirement as a means of employment generation.

(ii) The nature of early retirement schemes

Early retirement schemes have been widely used to cope with the problems created by the introduction of new technologies and restructuring activities both of which may lead to redundancies among older workers who have difficulties in finding alternative employment. These schemes can be categorized by target group (defined according to eligibility requirements), namely, employed workers, unemployed workers or disabled workers:

(a) Early retirement for *employed workers* is often, though not always, in order to provide more employment for young people, a group that is suffering from disproportionately high rates of unemployment. These schemes encourage workers nearing retirement age to leave the labour market prematurely. An example is the Job Release Scheme,

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[199] For a survey and discussion of wage subsidies designed to boost the demand for labour see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984, pp. 38-54.

[200] For example, in the United States Social Security early retirement, with actuarially reduced benefits prior to age 65, was initially made available to women in 1956 and in 1961 to men. With the United States in the midst of the recession in 1961 and the unemployment rate at almost 7 per cent, it was recognized that due to long-term technological change, unemployed older workers would encounter enormous difficulties in finding employment.

[201] It should be noted that the expansion of disability programmes was also partly a consequence of an evolution in the perception of good health and thus definitions of disability have been loosened not only for employment reasons.

TABLE 2.11.1

Availability of early retirement options

	Disability	*Unemployment*	*Reduced benefit*	*Long service*	*Arduous occupations*	*Partial retirement*
Austria	X	X		X	X	
Belgium	X	X	X	X	X	
Denmark	X	X				
Finland	X	X				
France	X	X	X		X	X
Germany, Fed. Rep. of	X	X		X		X
Italy	X	X		X		X
Netherlands	X	X				
Norway	X					
Sweden	X	X	X			X
Switzerland	X					
United Kingdom	X	X				X
Canada	X					
United States	X		X			

Source: Appendix 1.

introduced in the United Kingdom in 1977, initially only in the Assisted Areas, but later expanded to include all of Great Britain: it provides an early pension on condition that the employer hires an unemployed person, although not necessarily for the same position. In Denmark the implementation in 1979 of a programme permitting early retirement attracted far more workers in the first year than expected; this scheme does not stipulate that another person be recruited to fill the vacancy left by the retiree;

(b) Early retirement for *unemployed workers* normally requires that a worker be registered as unemployed for a specified period of time before becoming eligible for early retirement. For example, in France, the Guarantee of Resources Agreement between the employers' federation and labour unions, provided a pension of approximately 70 per cent of pre-retirement pay to redundant workers at the age of 60 who agreed not to take other employment. Introduced in 1972, this plan was discontinued in 1984 when the normal retirement age was lowered from 65 to 60 years;

(c) *Disability pensions* have been a standard feature of social security schemes for several decades. Awarded to workers who have a disability (physical or psychological) which either precludes gainful employment or only allows part-time employment, they were not explicitly designed to induce early retirement. Recently, however, they have been increasingly used to encourage early retirement by broadening the definitions of disability.

(iii) Inventory of early retirement and disability pensions

Appendix 1 provides a summary of many of the schemes that have been devised to encourage premature retirement from the labour force. The table indicates the diversity of such schemes as well as the extent to which they have become firmly rooted in labour market policy. While disability pensions are not early retirement schemes *per se*, they have been included in the discussion as in a number of countries they have been increasingly used to reduce labour supply and unemployment.

Generally, early retirement pensions tend to be limited to groups of workers who meet specified qualifying conditions, such as full or partial disability, unemployment, long service or have been employed in arduous or hazardous occupations. In addition, in several countries those who are willing to accept an actuarially reduced pension can elect for early retirement.

Among the myriad of existing schemes are those permitting partial or gradual retirement in France, the Federal Republic of Germany, Italy, Sweden and the United Kingdom, and a host of private plans in the United Kingdom and the United States. The schemes can operate at various levels, such as the nation, the industry, occupation or firm. The general trend has been to continually introduce new early retirement options so as to encompass more workers. More recently, schemes based on agreements between the government and unions (France, the Federal Republic of Germany and Italy), between industries and unions (France, the United States) as well as company specific plans (the United States) have become more widespread. Table 2.11.1 indicates that the range of early retirement options is greatest in Austria, Belgium, France, Federal Republic of Germany, Italy and Sweden; in Canada, Norway [202] and Switzerland only disability pensions exist.

As a consequence of the long-term trend in improving the conditions of workers and the implementation of broad socio-economic goals, legislative modifications of pension schemes have generally led to an expansion of the population covered, an increase in benefits, a lowering of the entitlement age and a relaxation of eligibility requirements. However, since the early 1970s a number of developments have been based upon short-run cyclical considerations rather than long-term perspectives. Coinciding with rising unemployment in the late 1960s and the reduced ability of economically vulnerable groups, such as the aged and the disabled, to find and retain suitable employment, pressures mounted for additional initiatives. The result was a series of new plans combined with a relaxation and reinterpretation of existing laws. For example, by 1975, provisions had been adopted in Italy for early retirement with full benefits for long service, while in Belgium, Finland, France and Sweden early retirement was permitted for reasons of involuntary unemployment; in Austria and the Federal Republic of Germany either condition was sufficient.

Governments have tended to avoid lowering statutory retirement ages, preferring instead to rely on early retirement schemes. One possible explanation for this preference is that these schemes were intended to be temporary, whereas modifying the statutory retirement age would imply a permanent change. Their temporary nature permits the review and adjustment of early retirement schemes in the light of the existing employment situation and reduces the possibility of early retirement being enshrined as an acquired right.

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[202] In Norway schemes have been implemented to encourage the continuation of work beyond the normal pensionable age of 67.

As already noted, another development has involved disability pensions. In the Federal Republic of Germany, Finland and the Netherlands a series of changes in the definition of disability in the 1960s and 1970s provoked a substantial rise in the number of benefits awarded on this ground. In the Federal Republic of Germany, the Federal Social Court issued rulings in 1969 and 1976 requiring pension institutions to place greater emphasis on whether an appropriate job existed in adequate numbers before rejecting a claim for disability pension. In 1973, legislation in Finland eased the statutory disability definition by permitting a person's overall social situation to be taken into account. That same year the Netherlands also broadened the definition of disability by bringing into consideration the likelihood of the disabled finding suitable employment. In Sweden disability pensions can be awarded on the grounds of redundancy without the applicant submitting to a medical examination and also in Norway the employment situation is one of the factors used to determine the degree of disability. Norway and Sweden, in addition, permit early retirement on grounds of "premature aging". Thus, in a number of countries many awards for total disability are actually made to those who are only partially incapacitated but for whom no suitable job is available.

(iv) Labour force participation of older workers

A multitude of factors acting alone or in conjunction with one another exert an influence upon a worker's decision to withdraw prematurely from the labour force, that is before the normal statutory retirement age. These factors include the question of post- versus pre-retirement income, the unemployment rate, the extent of social security benefits and the availability of private pension plans, the tax structure and the inflation rate. Other factors while not economic (and more difficult to quantify) are no less important influences weighing upon the decision to opt for early retirement: these include job satisfaction, stress, ill health or disability, the desire for leisure, marital status and the presence of dependents.

By encouraging workers to retire prematurely the schemes described above have contributed to one of the most prominent features of labour market developments since the early 1960s, namely, the unprecedented drop in the participation rates of older males.[203] Since 1960, but accelerating from 1970, labour force participation rates among men aged 60-64 have fallen precipitously; the decline has been less sharp, but in most cases still substantial, for males aged 55-59. This fall has occurred despite modest increases in life expectancy at older ages, improvements in health and levels of education, as well as a long-term trend towards higher rates of inflation, all of which might have been expected to encourage workers to remain in the labour market.

Table 2.11.2 indicates the orders of magnitude of changes in the labour force participation rates of older workers. For 11 countries of Western Europe and North America, the unweighted average of activity rates for males aged 60-64 fell from 60.6 per cent in 1975 to 44.0 per cent by around 1984. Within the relatively brief period between 1970 and 1984, activity rates of men in the age group 60-64 have plummeted in Belgium, Denmark, France, the Federal Republic of Germany and the Netherlands (more than 2.5 percentage points a year) and have declined more modestly in Italy, Sweden and the United States (less than 1.5 points a year). The average annual decline of 2.8 points in France occurred despite pension rates which are very progressive between the ages of 60 and 65 and which might have been expected to discourage early retirement.[204]

Falling participation rates have also characterized males aged 55-59 in nine out of the ten countries for which data were available. However, in all the countries the average annual decline was considerably less than for men aged 60-64. This is not surprising given the fact that for the majority of pre-retirement schemes eligibility is limited to workers in the latter age group. For 10 countries the average unweighted activity rate of men aged 55-59 declined from 83.2 per cent in 1975 to 77.2 per cent around 1984.

Generalizations concerning the tempo of changes in participation rates are difficult to make. Since 1980 the rate of decline in male participation for those aged 60-64 has tapered off in six countries (Austria, Belgium, Finland, the Federal Republic of Germany, Italy and Sweden) and it is possible that a lower limit is being approached in these countries. In France, the Netherlands, the United Kingdom and the United States, where the activity rates of males aged 60-64 years have generally been higher than in the previously mentioned countries, the decline in participation rates has accelerated since 1980.

Trends in female participation rates are more divergent than those for males. Between 1970 and 1984, the participation rates of women aged 60-64 fell more than a 1/2 point a year in three countries and in six countries it scarcely changed (between −0.3 and +0.2 points a year). Sweden was exceptional in that there was a significant increase (1.1 percentage points a year). For women aged 55-59 participation rates declined only in Belgium and France between 1970 and 1984. Generally the male- female ratio of early pensioners has been approximately 3 to 1, whereas, in recent years, in western Europe as a whole, the ratio of males to females in the labour force has been around 1.6. One conclusion to be drawn from the data is that older women, particularly those unmarried, remain longer in the labour force than older males. Among the possible reasons for this difference are the shorter time women spend in the labour force and their lower rate of pay which, together, result in the smaller lifetime earnings of women and thus lower pension benefits. Another factor is that early retirement programmes have been concentrated in industry, particularly manufacturing, where males are more predominant than in the total labour force.

(v) Magnitude of early retirement and disability pensions

Despite the widespread nature and large number of early re-

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[203] A substantial amount of research exists concerning the contribution of early retirement schemes to falling male participation. See, for example, V. Reno and D. Price, "Relationship Between the Retirement, Disability and Unemployment Insurance Programs: The U.S. Experience", *Social Security Bulletin*, vol. 48, No. 5, Washington, D.C., May 1985; "Social Security, Unemployment and Premature Retirement", Studies and Research No. 22, International Social Security Association, Geneva, 1985; "Bilan de L'Emploi", 1984, *Dossiers Statistiques du Travail et de l'Emploi*, No. 12-13, Paris, September 1985.

[204] In France, the lowering of the normal retirement age in 1984 from age 65 to 60 does not appear to have had any noticeable impact yet on the trend in male participation. The activity rate for men aged 60-64 was 2.5 percentage points lower in 1984 than in 1983, which is in keeping with the downward movement observed in the previous few years. It had been predicted that a decline in the retirement age would result in 350,000 additional people willing to retire. See, R. Cuvillier, *The Reduction of Working Time*, International Labour Office, Geneva, 1984, p. 63.

TABLE 2.11.2

Labour force participation rates of older workers by age and sex

Country	*55-59 years*					*60-64 years*				
	1970	*1975*	*1980*	*1984*	*Average annual change*	*1970*	*1975*	*1980*	*1984*	*Average annual change*
				MALES						
Austria	..	..	..	75.1 [a]	..	47.7	37.1	27.5	21.5 [a]	−2.0
Belgium	..	82.2	74.0	70.5 [b]	−2.0	..	58.3	40.1 [c]	34.1 [b]	−4.0
Denmark	..	84.5 [d]	81.8	87.8 [e]	0.5	..	74.5 [d]	59.7	56.9 [e]	−2.9
Finland	76.6	71.3	67.6	70.0	−0.5	65.0	52.8	43.0	43.0	−1.6
France	..	83.3	80.9	68.1	−1.7	..	56.7	47.6	31.1	−2.8
Germany, Fed. Rep. of	89.2	85.7	82.3	80.1	−0.7	74.7	58.3	44.2	35.2	−2.8
Italy	81.0	77.8	74.8	73.3 [a]	−0.6	48.2	42.4	39.6	36.8 [a]	−0.9
Netherlands	86.9 [f]	80.3	74.2	72.6 [b]	−1.4	73.9 [f]	64.9	50.1	43.7 [b]	−3.0
Sweden	90.9 [f]	89.7	87.7	87.2 [e]	−0.3	78.1 [f]	74.0	69.0	68.4 [e]	−0.9
United Kingdom [g]	93.1 [f]	93.0	90.1	82.0	−0.8	82.9 [f]	82.3	71.2	56.7	−2.0
United States	89.5	84.4	81.9	80.2	−0.7	75.0	65.7	61.0	56.1	−1.4
Average	86.7	83.2	79.5	77.2	−0.8	68.2	60.6	50.3	44.0	−2.2
				FEMALES						
Austria	..	..	..	25.9 [a]	..	..	..	8.8	7.6 [a]	−0.4
Belgium	..	21.3	19.1 [c]	17.2 [b]	−0.7	..	7.8	6.4 [c]	5.8 [b]	−0.3
Denmark	..	47.6 [d]	52.0	58.5 [e]	1.8	..	31.2 [d]	28.9	30.4 [e]	−0.1
Finland	56.1	56.4	57.0	66.0	0.7	35.9	32.5	27.4	38.0	0.2
France	..	43.5	47.3	42.9	−0.1	..	29.8	27.3	19.0	−1.2
Germany, Fed. Rep. of	37.2	38.4	38.7	40.2	0.2	22.5	16.4	13.0	11.8	−0.8
Italy	18.2	17.3	21.4	20.8 [a]	0.2	10.6	8.5	11.0	10.5 [a]	—
Netherlands	17.7 [f]	17.9	18.2	20.2 [b]	0.3	11.9 [f]	10.7	9.8	9.9 [b]	−0.2
Sweden	54.6 [f]	60.8	68.8	72.1 [e]	1.6	34.5 [f]	38.3	41.0	46.2 [e]	1.1
United Kingdom [g]	50.9 [f]	52.4	53.6	51.1	—	28.8 [f]	28.6	22.4	21.2	−0.6
United States	49.0	47.9	48.6	49.8	0.1	36.1	33.3	33.3	33.4	−0.2
Average	40.5	40.4	42.5	42.2	0.4	25.8	23.7	20.8	21.3	−0.2

Sources: See appendix 2.

[a] 1983.

[b] 1981.

[c] 1979.

[d] 1976.

[e] 1982.

[f] 1971.

[g] Great Britain only.

tirement schemes, pension data in sufficient detail to determine the magnitude of early retirement are not readily available in national statistical sources. One difficulty is the fact that, in a single country, several different pension funds may dispense pensions, without any agency collecting data on a country-wide basis. In France for example, there are over 100 different pension funds. Information on the numbers of early retirees, their previous occupational and industrial distribution and the costs incurred, is for the most part not regularly published or not published at all. In the United States a vast array of private pension schemes (about 500,000), operating independently of the Social Security System, makes data collection extremely difficult.[205] In recent years a number of American companies have offered "golden handshakes" or early retirement to employees as a means of reducing their work force without the data being reported to the Social Security authorities.[206] Table 2.11.3 provides some data on the size of the various programmes which, if aggregated, indicate that in western Europe and North America in 1984 there were, at minimum, over 5 million recipients of early retirement pensions and at least 11 million recipients of disability pensions. To the extent that private pension plans are operating, the numbers are underestimated. The absence of data for various countries, however, does not imply the non-existence of such schemes. To gauge the relative size of these programmes, the number of disabled as a proportion of the total labour force and early retirees as a proportion of the appropriate age group has also been calculated.

Many of the legislative and policy changes are reflected in the data. The number of disability pensions in force as a percentage of the labour force in the Federal Republic of Germany increased from 6.4 per cent to 8.7 per cent between 1975 and 1984, rose from 7.9 per cent to 9.4 per cent in Finland between 1970 and 1983 and almost tripled in the Netherlands between 1970 and 1984 (from 4.4 per cent to 12.2 per cent). For many years in the Federal Republic of Germany, the number of disability pensions awarded to men exceeded the number of retirement pensions. During the 1970s the proportion of traditional pensions fell from 40 per cent to 10 per cent of the total as a consequence of the high take-up of early retirement and disability schemes. Another factor contributing to the growth of disability pensions in a number of countries is that replacement ratios (benefits as a proportion of previous earnings) are often higher for disability than for unemployment payments and in some cases exceed pre-retirement income. The rapid growth in

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[205] A 1979 survey of private pension plan coverage found that about 50 per cent of all men and 31 per cent of all women who were employed in private industry were covered by private pension plans. G. Rogers, *Pension Coverage and Vesting Among Private Wage and Salary Workers, 1979: Preliminary Estimates from the 1979 Survey of Pension Plan Coverage*, Working Paper No. 16, Office of Research and Statistics, Social Security Administration, Washington, D.C., 1980.

[206] In the United States the prevalence of early retirement options in the pension plans of medium- and large-sized firms was confirmed in a study by the Bureau of Labor Statistics which estimated that 58 per cent of workers were included in plans that permitted early retirement. "Employee Benefits in Medium and Large Firms", Bureau of Labor Statistics, *Bulletin* No. 2176, August 1983, Department of Labor, Washington, D.C.

TABLE 2.11.3

Number of beneficiaries of selected early retirement and disability pensions [a]

Country	*Programme*		*1970*	*1975*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Austria	Long-service/unemployment	Number of persons		52	64	73	86			
		% of population 55-64		7.3	8.7	9.6	10.9			
Belgium	Early retirement [b]	Number of persons		33 [c]	81	99	117	129		
		% of population 55-64		3.5 [c]	8.1	9.7	11.1	11.5		
Denmark	Voluntary early retirement	Number of persons			53	63	70	76		
		% of population 60-69			10.5	12.4	13.8	15.1		
	Disability	Number of persons	112	149	152	151	152	141		
		% of labour force	4.7	6.0	5.7	5.7	5.7	5.3		
Finland	Unemployment	Number of persons	1	13	17	23	33	35		
		% of population 60-64	0.4	5.6	8.1	10.7	14.9	15.5		
	Special early retirement	Number of persons					45			
		% of population 55-64					9.2			
	Disability	Number of persons	172	249	243	240	236	238		
		% of labour force	7.9	11.0	10.0	9.7	9.3	9.4		
France	Early retirement	Number of persons [d]	13	84	215	330	488	696	675	634 [e]
		% of population 55-64	0.5	2.0	4.5	6.5	9.1	12.4	11.7	
Germany, Fed. Rep. of	Early retirement	Number of persons		1089	1407	1503	1613	1718	1822	
		% of population 55-64		18.3	23.8	24.6	25.2	25.6	27.6	
	Disability [f]	Number of persons		1715	2025	2129	2252	2357	2373	
		% of labour force		6.4	7.5	7.8	8.2	8.6	8.7	
Italy	Disability	Number of persons						3139	3046	
		% of labour force						13.5	13.0	
Netherlands	Early retirement	Number of persons			20					
		% of population 60-64			3.4					
	Disability Security/General Disability Act	Number of persons	215	349	661	689	711	728	741	757 [e]
		% of labour force	4.4	6.9	12.0	12.2	12.2	12.3	12.2	
Norway	Disability [g]	Number of persons			192	191	197	204	219	
		% of labour force			9.7	9.7	9.9	10.1	10.8	
Sweden	Flexible (partial) retirement	Number of persons		15 [h]	67	63	61	54		
		% of population 60-64		3.1	14.3	13.0	12.4	11.0		
	Disability	Number of persons	212	289	293	302	309	314		
		% of labour force	5.4	7.0	6.8	7.0	7.1	7.2		
United Kingdom	Job Release Scheme	Number of persons		10 [i]	66 [i]	58 [i]	67 [i]	95 [j]	86 [k]	54 [k]
		% of population 60-64		0.4	2.6	2.2	2.5	3.4		
	Early retirement	Number of persons				27				
		% of population 60-64				1.0				
United States	Early retirement [l]	Number of persons	1225	1723	2017	2115	2213	2321	2407	2453 [k]
		% of population 60-64	14.1	18.3	19.9	20.4	20.9	21.6	23.2	
	Disability Insurance Programme [m]	Number of persons	2665	4352	4682	4456	3973	3813	3822	3857 [k]
		% of labour force	3.1	4.5	4.3	4.1	3.5	3.4	3.3	3.3

Source: See appendix 2.

[a] Beneficiaries are in thousands.

[b] Includes contractual, statutory and special schemes.

[c] 1977.

[d] 31 December.

[e] 31 July.

[f] Includes occupation and employee disability pensions.

[g] National insurance.

[h] 1976.

[i] April.

[j] September.

[k] March.

[l] Retired workers aged 62-64 receiving Social Security benefits in December of each year.

[m] Includes dependents and only payments under Social Security.

the United States disability programme, however, is surprising as the criteria for disability have remained quite stringent and the programme is not intended to pay benefits to either healthy unemployed workers or to those with only marginal impairments. Nevertheless, the number receiving disability benefits rose sharply between 1970 and 1980.[207]

One basic feature distinguishing national disability criteria is the minimum reduction of work capacity required for eligibility. In the Netherlands, a reduction of only 15 per cent is necessary, while in many countries it is between 50 per cent and 66 per cent. In the United Kingdom and the United States the recipient is required to be totally incapable of work. It is interesting to note that in the Netherlands and in Sweden, where respectively only a 15 and a 50 per cent reduction in work capacity is required, over 85 per cent of the beneficiaries were receiving the full benefit in 1978. This contrasts sharply with systems that rate disability on a medical scale and where only a minority of beneficiaries receive the maximum benefit.

Lack of data severely restricts the possibility of cross-country comparisons and makes it difficult to discern any clear patterns. This is certainly the case for the relationship between early retirement and declining male activity rates in the older age groups. Of those countries with either a large proportion of early retirees, as in Finland, the Federal Republic of Germany and the United States (over 20 per cent of the appropriate age group) or of disability pensioners, as in Italy, Norway and the Netherlands (over 13 per cent of the labour force), only in the Federal Republic of Germany and the Netherlands has there been a substantial fall in the participation rates of males aged 60-64.

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[207] A recent study concerning the United States concluded that the increasing relative generosity and/or leniency of disability programmes have had a statistically significant but small impact on the work choice of older workers. Older low-wage earners with health problems are identified as those most responsive to changes in programme benefits. R. Haveman and B. Wolfe, "Disability Transfers and Early Retirement: A Causal Relationship?", *Journal of Public Economics*, vol. 24 (1984), pp. 47-64.

Looking at countries with the largest declines in participation rates, for example, Belgium, Denmark and the Netherlands, it might be concluded that this is a function of more favourable pension conditions, such as higher earnings replacement ratios and lower thresholds of eligibility as compared with, for instance, the United States where the declines in participation rates are much smaller and benefits less generous. While this may hold true to a certain extent, it should be borne in mind, however, that the decline in participation rates in the United States was not insignificant. Although social security policy in the United States was not used to foster early retirement, and in fact was modified to encourage the postponement of retirement, the proportion of men aged 62-64 who were out of the labour force rose from 31 per cent to 52 per cent between 1970 and 1983.[208] In the United States the response to mounting unemployment has been to continue the traditional approach of temporarily extending the duration of unemployment benefits. Given the lower unemployment benefits and shorter eligibility period as compared with most European countries, the United States figures suggest that a discouraged worker effect might be operating, whereby older workers unable to find employment are dropping out of the labour force in order to collect actuarially reduced pension benefits at an earlier age.[209] A negative relationship between rising unemployment and older male participation is suggested by the data in Belgium, Denmark and the Netherlands where there have been substantial increases in unemployment and a large outflow of 60-64 year old men from the labour force. This contrasts with low unemployment countries such as Austria, Finland and Sweden where declines in the participation rates of men 60-64 have been smaller.

Around 1980 there appears to have been a tapering off in the growth of disability pensions in some countries (Belgium, Denmark, Finland, the United States) which has been offset to some extent by an acceleration in the number of workers taking early retirement.[210] This may reflect the measures taken to restrain government expenditures including the application of stricter criteria in the award of disability pensions. In Italy, the Netherlands and Norway the ratio of labour force participants to disability pensioners is approximately 8 to 1.[211]

An examination of the available data on early retirees classified by industry of previous employment reveals that early retirement is concentrated in sectors, particularly in manufacturing, where the fall in employment has been most pronounced, that is, textiles, clothing, engineering, metal industries and construction. In Belgium, France, the Federal Republic of Germany and the United Kingdom early retirees tend to be atypical of the total labour force, with unskilled and semi-skilled manual workers being overly represented and professionals and managers under-represented. The population of disability pensioners in Sweden is also heavily weighted towards unskilled workers in declining industries.

(vi) Evaluating early retirement schemes

How effective is the promotion of early retirement in reducing unemployment? Given the popularity and enormous costs associated with early retirement schemes, the dearth of studies evaluating their real costs as well as their impact on unemployment is surprising. A cost-benefit analysis of early retirement schemes would be a formidable task given the numerous factors to be taken into consideration and the difficulty of quantifying them. Leaving aside the question of quantification, a cost-benefit taxonomy is shown in table 2.11.4 displaying the gains and losses associated with early retirement schemes for participants, employers and governments. Even if the variables can only be roughly quantified, such an accounting framework can highlight the equity considerations involved as well as questions of economic efficiency. One element not appearing in the table is the deadweight cost of payments to persons who would have retired anyway.

An important issue is the extent to which retirees are replaced by other workers. As few countries have monitored schemes in progress or have incorporated an evaluation component into them, estimating the overall impact on employment is hazardous. Based on various published studies, table 2.11.5 provides, for selected schemes, estimates of the proportion of early retirees that have been replaced by other workers. The replacement rates vary from a low of 25 per cent in the Nether-

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[208] Based on a detailed analysis of longitudinal data, a recent study concluded that the accelerating decline in labour force participation of elderly men between 1969 and 1973 in the United States can be explained by the substantial increase in real Social Security benefits that took place in that period. See M. Hurd and M. Boskin, "The Effect of Social Security on Retirement in the Early 1970s", *Quarterly Journal of Economics*, November 1984, vol. XCIX, No. 4, pp. 767-790.

[209] Despite the accumulation of a considerable body of research, a comprehensive understanding of cyclical labour market behaviour does not yet exist. The relationship between cyclical variations in labour force participation and unemployment in terms of added workers and discouraged workers continues to create controversy. If during recessions job hunters become discouraged and withdraw from the labour force, then measured unemployment would be artificially deflated. On the other hand if during a recessionary downturn people enter the labour market looking for jobs (added worker effect), possibly due to an out-of-work spouse, recorded unemployment will be higher. An analysis of monthly employment-status transition probabilities for the United States for the years 1968-1984 has led one researcher to suggest that during recessions the likelihood of an unemployed person dropping out of the labour force decreases while the probability of someone outside the labour force entering the labour force increases. This casts doubt on the widely held discouraged worker effect which would predict just the opposite pattern. See M. Keeley, "Cyclical Unemployment and Employment Effects of Labor Force Entry and Exit", Federal Reserve Bank of San Francisco, *Economic Review*, Summer 1984, No. 3.

[210] In a number of studies carried out in the late 1970s it was shown for the Nordic countries that regional variations in disability density could be explained by the regional unemployment rate, while in the United States, the increase in the number of disability benefit *applications* was linked to the unemployment rate. See P. Siren, "Taloudellisen tilanteen ja tyokyvyttomyyden valiset sushteet", *Tyokyvyttomyys-tutkimuksen tehtavat ja mahdollisuudet*. A:15/1979, Social Insurance Institution, Helsinki, 1979; M. Lando, M. Coate and R. Kraus, "Disability Benefit Applications and the Economy", *Social Security Bulletin*, Washington, D.C., October 1979.

[211] In view of the steady climb in disability payments, the Government of the Netherlands imposed more restrictive criteria for the determination of disability and made a number of budgetary cuts in the pension system in 1984. In the same year legislation came into effect in Italy, which eliminated the provision linking disability to the state of the labour market: the new act refers only to a reduction in work capacity based on an assessment of the physical and mental condition of the applicant. Likewise in 1984, the United States Congress passed legislation completely overhauling the disability programme. At present a review of all those on the Social Security disability rolls is being carried out. The new rules provide that individuals can only continue receiving disability benefits if there has been no medical improvement in their ability to work since the last evaluation. In a previous review in 1981 100,000 people lost their disability benefits.

TABLE 2.11.4

Benefits and costs of early retirement schemes to the programme participant, employer and government

	Benefits	*Costs*
Programme participant retiree	— Value of pension — Value of leisure — Social and psychological benefits of not being unemployed [a]	— Value of salary foregone — Value of unemployment benefit foregone [a]
Worker replacing retiree [b]	— Value of salary — Value of training and experience — Social and psychological benefits of not being unemployed	— Value of unemployment benefit foregone
Employer	— Younger age structure of the work force — Value of lower salary expenditures	— Loss of experienced worker
Government	— Reduction in expenditures for unemployment benefits and other income transfer programmes — Increase in social security contributions [b] — Increase in income taxes [b]	— Expenditures on early retirement schemes — Decrease in social security contributions [c] — Decrease in income taxes [c]

[a] Assumes retiree would have been unemployed in the absence of scheme.

[b] For schemes which require that retiree be replaced with another worker.

[c] For schemes in which retiree is not replaced with another worker.

TABLE 2.11.5

Replacement rates of early retirement schemes

Country/Scheme	*% of retirees replaced*
Belgium	
Early retirement pension	67
Denmark	
Early retirement scheme	70-75
Finland	
Early retirement for veterans	45
France	
Solidarity contracts	95
Germany, Fed. Rep. of	
Early retirement for long service	60
Netherlands	
VUT	25
Sweden	
Partial pension	50
United Kingdom	
Job release scheme	70-75

Sources: Social Security, Unemployment and Premature Retirement, Studies and Research, No. 22, International Social Security Administration, Geneva, 1985, pp. 37, 47; *Efficiency of Labour Market and Employment Policy Measures*, Study No. 82/6, p. 131, Commission of the European Communities, Brussels, 1982; M. Frossard, "Crise et cessations anticipées d'activité: une comparaison internationale", *Travail et Emploi*, Ministère des affaires sociales et de la solidarité nationale, April-June 1983, No. 16, Paris, p. 24; *Monthly Labor Review*, October 1985, Department of Labor, Washington, D.C., p. 40; D. Metcalf, *Alternatives to Unemployment, Special Employment Measures in Britain*, Policy Studies Institute, London, 1982; R. Layard, *Unemployment in Britain, Causes and Cures*, Centre for Labour Economics Discussion Paper No. 87, London School of Economics, 1981.

lands to 95 per cent in France where replacement is mandatory. However, in Belgium, where under the early retirement scheme, replacement is also obligatory, the rate is only 67 per cent despite the provision for fines on offending employers. This is one indication of the difficulty involved in monitoring compliance with the rules. From this point of view, alleviating unemployment by means of early retirement is much more costly in the Netherlands where only one out of four early retirees is replaced, as compared with France where under solidarity contracts virtually all jobs vacated by early pensioners have been filled.[212] Even in those countries where the replacement of retirees is mandatory (Belgium and France), it appears that there have been no studies of the employment of newly recruited workers beyond the obligatory employment period which is normally six months to a year.

Another possible avenue of analysis would be to compare early retirement costs with alternative policies such as unemployment benefits. Table 2.11.6 compares the two policies in terms of replacement ratios that is, the ratio of the pension or unemployment benefit to the previous salary. With the exceptions of France, where unemployment payments are substantially higher than those for early retirement,[213] and of the Netherlands, where unemployment benefits are only slightly higher, early retirement pensions have been equal to or greater than unemployment benefits in five countries and thus the

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[212] Assuming 15 per cent non-replacement and 10 per cent deadweight cost it was estimated that under the Job Release Scheme in the United Kingdom the net cost to the exchequer of removing one person from the unemployment register was £676 in 1978. This was considered to be one third of the cost associated with a general reduction in the retirement age. D. Metcalf, *Alternatives to Unemployment: Special Employment Measures in Britain*, Policy Studies Institute, No. 610, London, 1982, p. 48.

[213] Despite the early retirement pension being smaller than the unemployment benefit in France, in 1983 the Government spent 43 billion francs on early retirement and 41 billion francs on unemployment benefits.

TABLE 2.11.6

Comparison of early retirement and unemployment benefits

Country	Early retirement benefit[a]	Unemployment benefit[b]
Belgium	67	67
Denmark	92	92
Finland	80	44
France	65-75	90
Germany, Fed. Rep. of	77[c]	68
Netherlands	80-85	89
Sweden	85-90	82

Sources: See appendix 1 and Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 35, No. 3, Pergamon Press for the United Nations, September 1983, p. 292.

[a] Per cent of previous salary.

[b] Rate of disposable income replacement of an unemployed "typical worker" (married worker with three dependents in 1982).

[c] Based on monthly net salary of DM 2,214.

strong preference shown by workers for early retirement is not surprising. Furthermore early retirement schemes are paid until the normal retirement age is reached, while entitlement to unemployment benefits usually lasts for a maximum of two years.

Conclusions

Even if early retirement schemes fail to boost the overall level of employment or to satisfy criteria of economic efficiency, they may still be judged as beneficial if employment is redistributed in favour of groups that suffer from disproportionately high rates of unemployment. On the other hand, if workers who are already unemployed are redefined as early retirees, nothing has been accomplished to meet the aspirations of those who wish to return to work. In fact, the very existence of these schemes may remove any reluctance employers have to declare workers redundant. This would make early retirement a rather expensive method of disguising unemployment.

There already exists an enormous potential outflow of older workers from the labour force as a consequence of demographic aging; incentives to retire early can only reinforce the serious pressures on national economies through their impact on national pension schemes. Part of the strain can be traced to imposing upon pension funds a function for which they were never designed, that is, the narrowing of the gap between the supply of and demand for labour.[214] By fostering early retirement as an *ad hoc* method of lowering unemployment, there is a risk of institutionalizing a short-term policy response and of early retirement being regarded as an acquired right by future generations of retirees and thus difficult to eliminate. Given the growing propensity to early retirement and the aging of the population in most developed market economies, the continued viability of pension systems will require that a growing share of national income be devoted to the support of pensioners.[215] This will have significant ramifications for macro-economic policies, public support programmes and levels of taxation. The strain on pension schemes could be relieved by either increasing employment, boosting productivity, raising employee/employer contributions or some combination of all three. As the first two options are a function of macro-economic developments, they are difficult for governments to control. The third possibility, being an administrative decision, would be relatively simple to undertake, although it could have serious and unintended repercussions. Burdening employers and employees with additional payroll taxes could be counter-productive as it may shrink the demand for labour or lead to inflationary wage demands. Higher taxation may stimulate even more retirement and promote a shadow or underground economy in which workers evade the payment of taxes.[216] Yet for early retirement pensions to be attractive they should not be actuarially discounted.

Another factor to be taken into consideration is the social and political reaction when the redistribution of national product to the elderly is perceived as being at the expense of other groups such as children. In the United States the substantial reductions in national programmes benefiting children have been seen by some observers as the result of the political power of the elderly in protecting Social Security benefits from cuts in government expenditure.[217]

From a long-term perspective the advisability of encouraging premature retirement seems highly questionable. Given falling birth rates and subsequent future contractions in the population of working age, the growth of the labour force in most developed market economies is likely to be minimal by the end of the century. In addition, the ratio of pensioners to wage earners contributing to social security will rise. A more appropriate policy in these circumstances would be to raise the mandatory age of retirement and eliminate incentives to early retirement. Such a policy would also recognize the demand for higher education, which defers the entry of young people into the labour force, the fact of increasing life expectancy and the possibility that the premature retirement of part of the human capital stock may imply a considerable waste of scarce resources.

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[214] In the United States the possibility of early retirement has been viewed less as a method to regulate the supply of labour and more as a means of providing a greater choice between work and leisure. In contrast to other countries, under the Social Security Amendments enacted in 1983 the eligibility age for full retirement benefits was raised from age 65 to 67 to be gradually phased in between the years 2002 and 2027. In addition, the early retirement reduction in benefits claimed at age 62 was increased from 20 per cent to 30 per cent, while the benefits for delayed receipt of retirement benefits were increased from 3 per cent to 8 per cent a year. These modifications were motivated by the urgent need to rescue the Social Security System from the brink of bankruptcy.

[215] A series of calculations carried out for nine countries of western Europe and North America indicated that, depending on the country, lowering the age of retirement from age 60 to age 55 in 1990 would require that an additional 1.5 per cent to 3.4 per cent of gross domestic product be devoted to expenditure on pensions. See, Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 35, No. 3, Pergamon Press for the United Nations, September 1983, p. 314.

[216] Econometric studies have shown that taxes imposed on wages have a statistically significant and quantitatively important impact on the probability of retirement. This raises the possibility of a self-reinforcing trend towards early retirement, leading to even lower levels of non-participation by workers unwilling to shoulder the burden of additional taxes. See, for example, H. Rosen, "What is Labor Supply and Do Taxes Affect it?", *American Economic Review*, May 1980, pp. 171-176.

[217] See S. Preston, "Children and the Elderly: Divergent Paths for America's Dependents", *Demography*, vol. 21, No. 4, November 1984, pp. 435-457; "Creating a New Class Among the Young, Poor", *International Herald Tribune*, 29 October, 1985, p. 1.

APPENDIX 1

Inventory of early retirement and disability schemes in Europe and North America 1961-1985

Country	Retirement age M. Males F: Females Normal	Retirement age Early	Programme	Conditions for eligibility	Amount of pension
Austria	65 M 60 F	55 M 50 F	Early retirement for the unemployed (began 1961)	180 months of insurance (24 in previous 3 years) and unemployed 1 year for economic or structural reasons	30 per cent of earnings in last 5 years
		60 M 55 F	Special retirement benefit (began 1961)	In certain sectors after 35 years of service; also for those engaged in physically demanding work (57 M, 52 F)	67 per cent of earnings during previous year
			Disability	Loss of 50 per cent of normal earnings capacity	67 per cent of earnings during previous year or per cent of full pension corresponding to percentage loss of earnings capacity
Belgium	65 M 60 F	55	Contractual early retirement for redundant older workers (began 1974)	Workers in private sector or temporary workers in public sector unemployed for at least 1 year; in certain cases early retirement age is below 55	Unemployment benefit supplemented by allowance of 1,000 francs/month until normal retirement age
		60 M 55 F	Replacement of workers taking early retirement (1976-83)	Employer must replace the worker by a person under age 30 who must work for at least 1 year	Unemployment benefit supplemented by early retirement pension equal to 1/2 the difference between the reference wage and the unemployment benefit
		60 M 55 F	Special early retirement benefit (1978-82)	Unemployed for at least 1 year	Person can choose between unemployment benefit plus 1,000 francs/month or old age pension based on previous salary
		64 M	Pension for long-service or arduous occupations (began 1976)	Employed for 45 years with at least 185 days in each year or employed in ardous occupations for 5 of previous 15 years	Full pension
			Early retirement for border commuters	Frontier workers unemployed for at least 2 years	Unemployment benefit supplemented by allowance of 10% of previous net salary
		60 M 55 F	Early retirement (began 1983 to replace second Belgian scheme above)	Retiree must be replaced by another worker	Pension entitled to at normal retirement age
		55	Exceptions for the unemployed over age 55 (Royal decree of 29 December 1984)	Person must have been unemployed for 624 days during the previous 4 years	Unemployment benefit
			Disability	Loss of 2/3 of earnings capacity	If totally disabled 100 per cent of earnings; if partially disabled percentage of full pension corresponding to degree of incapacity
Canada	65		Disability	Prolonged incapacity for substantial gainful activity	If totally disabled 75 per cent to 90 per cent of earnings depending on Province; if partially disabled, proportion of full pension corresponding to impairment
Denmark	67	60	Social Pensions Act of 1984 [a] Voluntary early retirement (began 1979)	Member of an unemployment insurance fund for at least 10 of the last 15 years or in case of unemployment satisfy conditions for daily cash benefits; part-time workers also eligible	For full-time workers DKr 70,000 for first 2 1/2 years, DKr 56,000 for next 2 years and DKr 42,000 until normal retirement age

		18	Early retirement (began 1977)	Earnings capacity that is permanently reduced by at least 50 per cent; for those aged 50-66, ill health or social circumstances	Old-age pension
			Disability	Earnings capacity that is permanently reduced by at least 2/3	75 per cent of average earnings if totally disabled; if 50 per cent to 99 per cent disabled percentage of full pension proportionate to loss of earning capacity
Finland	65	60	Unemployment Pension (began 1961)	Person has received unemployment benefits or assistance for 200 days in previous 60 weeks and for whom authorities cannot find work; retirement age was temporarily reduced to 55 in 1983, increasing annually thereafter to 60 in 1988	Up to 80 per cent of earnings
		63	Pension Support (1979-80)	Retiree is replaced by unemployed person under age 25	
		55	Special early retirement	Under certain circumstances veterans and farmers who sell or transfer ownership of their farm	
			Disability	Unable to work because of permanent physical or mental disability	Up to 80 per cent of earnings; if working ability reduced to 40 to 60 per cent, 1/2 of full disability pension
France	65 (until 1983) 60 (from 1984) [b]	60	Special Contracts of the National Employment Fund (began 1962)	Workers made redundant for economic reasons	80 per cent to 90 per cent of previous salary
		60	Income guarantee — for redundant workers (1972-83) — for workers resigning (1977-83)		70 per cent of salary in the previous 6 months
		60	Early retirement	Hazardous working conditions, manual workers, mothers with 3 or more children, prisoners of war, veterans	
		55	Agreement for Social Protection in the Steel Industry (1977, 1979)	Workers in the steel industry which was in the process of restructuring	70 per cent of previous gross salary; Government contributes to costs, as well as the EEC in some cases
		56	Contracts of the National Employment Fund (began 1980)	Workers made redundant for economic reasons	65 per cent of net salary
		55	Solidarity Contracts (1982-88)	Youth or unemployed worker must be hired for 2 years; also possibility of partial retirement whereby worker receives 1/2 of previous salary	65 per cent of salary
		55 (50 in certain cases)	General Agreement for the Protection of Workers in the Steel Industry undergoing restructuring (began 1984)	Workers whose jobs have been abolished	75 per cent of former gross monthly salary and 20 per cent of a year's wage until retirement age
			Disability	Disability of 50 per cent	100 per cent of earnings
Germany, Fed. Rep. of	63-65	60	Early retirement (began 1957)	Women with at least 15 years of contributions	Full pension
		60	Early retirement for unemployment	15 years of contributions and unemployed for at least 52 weeks within the previous 18 months	Full pension
		63	Early retirement for long service (began 1973)	35 years of contributions	Full pension
		59	Social Plan (began 1979) by some major steel producers such as Thyssen Co. [c]	Introduced in 1979 by some major steel producers such as Thyssen Co. [c]	Unemployment compensation plus a supplement from the company until age 60, then normal early retirement benefits

APPENDIX 1 (*continued*)

Country	Retirement age M: Males F: Females Normal	Early	Programme	Conditions for eligibility	Amount of pension
Germany, Fed. Rep. of (*continued*)			Automobile Industry (Opel, Daimler-Benz, Volkswagen)	Varies according to company	Varies according to company
			Programmes for individual sectors:		
		60	Metal industry (began 1981)		90 per cent of previous net salary
		58	Chemical industry (began 1982)		75 per cent of previous net salary
		58	Collective agreements (1984-88)	Vacancy must be filled by person outside the firm and no company required to grant pension to more than 5 per cent of employees; conditions among agreements differ; partial early retirement also possible	At least 65 per cent of previous salary; under certain conditions Government pays 35 per cent of pension
			Disability	Totally unable to work or earn sufficient salary; person must have worked for at least 3 years in previous 5-year period; partial disability available if ability to earn in relation to healthy persons with same qualification reduced by 1/2 because of medical reasons	Full pension; if partial disability 2/3 of full pension or if earnings loss 20 per cent to 49 per cent, pension corresponds to this loss
Greece	65 M 60 M	60 F 55 F or 62 M 57 F	Early retirement	Arduous work or 10,000 days of insurance	Full pension
Italy	60 M 55 F	55 F 50 F	Early retirement (began 1979)	Unemployed due to economic crisis or industrial reorganization and member of pension scheme for at least 15 years	
			Early retirement	35 years of contribution	
		58 M 53 F	Solidarity contracts (began 1984)	Company has not dismissed any workers in the previous year and signs a collective agreement to increase employment accordingly; worker reduces working time by 50 per cent	Normal pension
			Disability (began 1965)	Total inability to work	If totally disabled 100 per cent of earnings in previous year; if 61 per cent to 79 per cent disabled, pension proportionate to percentage of incapacity; if 11 per cent to 60 per cent disabled pension is 50 per cent to 60 per cent of percentage of incapacity
Netherlands	65	60	Unemployment Benefits Act (WWV)	Workers unemployed for preceding 2 1/2 years	Unemployment benefit
		62	Early retirement, collective agreements in specific sectors[d] (VUT, began 1977)	10 years of employment	80 per cent to 85 per cent of final salary
			Disability Security Act (WAO, began 1967)	Employees with a disability of at least 15 per cent and unemployed for at least 1 year	Between 50 per cent to 90 per cent of previous salary, depending on degree of disability

			General Disability Act (AAW, began 1976)	Employees and non-employees with an income of at least 4,447 guilders in year preceding disability	Can not exceed net statutory wage
Norway	67	18	Disability (began 1971)	Working capacity reduced by at least 50 per cent due to physical or mental impairment; account is also taken of likelihood of finding employment	Up to 100 per cent of base amount (DKr 22,800 in 1983); if partial disability, pension proportional to loss of earning capacity
Portugal	65 M 62 F	60	Early retirement for the unemployed	Unemployed for 720 days	
		55	Early retirement for workers in physically demanding occupations	Miners, fishermen, longshoremen and sailors	
			Disability	Loss of 2/3 earnings capacity	The higher of 2/3 of minimum wage or 1/2 of earnings; if disability 30 per cent or more, percentage of full pension corresponding to degree of disability
Spain	65	64	Early retirement	Employer must replace retiree with youth seeking first job; the normal retirement age is lower than 65 for those doing difficult, dangerous or unhealthy work	Minimum of 21,000 pesetas/month
			Disability	100 per cent reduction of capacity to work in own trade or profession, for partial pension 33 per cent reduction in work capacity	100 per cent of actual earnings with minimum of 23,565 pesetas/month
Sweden	65	60	Actuarially reduced pension (began 1963)		Pension reduced by 0.6 per cent/month for each month prior to age 65
			Early retirement (began 1972)	Unemployment benefit has been paid for maximum period or labour market assistance has been paid for 450 days and opportunity to earn a salary is permanently reduced by 1/2	Full pension
		60	Collective agreement with large firms and some industries (began 1975)		70 per cent of salary
		60	Flexible retirement with part-time employment (began 1976)	Employed 5 out of the last 12 months; worker must transfer from full to part-time work and work at least 17 hours a week	50 per cent of salary lost due to part-time employment
			Disability (began 1970)	Working capacity reduced by 1/2 due to physical or mental impairment or on grounds of redundancy (special medical examination not required); partial disability available on grounds of premature aging or mental incapacity	Full pension
Switzerland	65 M	62 F	Disability (began 1960)	Earning capacity must be reduced by at least 2/3 or 360 days of total incapacity for work followed by at least 50 per cent loss of earning capacity	Same as old-age pension plus supplement to guarantee a minimum subsistance level
United Kingdom	65 M 60 F	62-64 M 59 F	Job Release Scheme [e] (began 1977)	Employer must replace retiree by someone from unemployment register; can be indirectly replaced by promotion or transfer; early retirement age for men also depends on marital status and income of spouse; lowered to 60 for the disabled	£50-£71 a week depending on marital status and degree of disability

APPENDIX 1 (*continued*)

Country	Retirement age M: Males F: Females Normal	Retirement age M: Males F: Females Early	Programme	Conditions for eligibility	Amount of pension
United Kingdom (*continued*)		60 M	Early Retirement Pension (began 1981)	Men unemployed for at least 1 year	Long-term supplementary unemployment benefit
		62-64 M 59 F	Part-time Job Release Scheme (began 1983)	Worker must shift to part-time work and unemployed person recruited for other 1/2 of job; from May 1985 employers recruiting unemployed replacement workers that meet certain conditions receive grant of up to £840	£29-£41 a week depending on marital status, with supplement of £4
			Disability	100 per cent disabled	Up to £54 a week plus unemployment supplement of £31 a week; if 20 per cent to 90 per cent disabled, £11-£48 a week
United States	65[f]	62	Early Retirement Option (began 1956 for women, 1961 for men)		Benefits reduced 5/9 of 1 per cent for each month prior to normal age[g]
		55[h]	Private pension plans	Depends on plan	Depends on plan
			Public employee plans	Depends on plan	Depends on plan
			Basic steel collective agreements[i]	Employees whose service is interrupted by a plant or department shutdown	
			Early retirement in individual firms (for example, Dupont, Caterpillar Tractor, began 1985)	Varies with firm	Varies with firm
			Disability Insurance Program	Person is unable to work due to physical or medical impairment expected to last at least 1 year or result in death	
Commission of the European Communities		55	Social *volet*, 1981[j]	Workers in steel companies undergoing restructuring; retirement age is 50 in special cases	Given for up to 3 years

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[a] In 1984 the Danish Parliament passed Act No. 217 which codified into a single act all the previous schemes.

[b] Incentives of 5 per cent a year for delaying retirement has been eliminated.

Under the reorganization plan adopted in the S[illegible] in 1977 the early retirement age was set at 55 years of age.

[d] In 1979 it was extended to include public sector workers.

Originally applicable only in Assisted Areas, it was extended to rest of country.

[f] In 1983 eligibility age for full retirement benefits was raised from 65 to 67 gradually phased in between 2002 and 2027.

[g] In 1983 the early retirement reduction in benefits claimed at age 62 was raised from 20 per cent to 30 per cent, to be phased in gradually between 2002 and 2027.

[h] Most common minimum age.

[i] For example, Pension Agreement Between the United States Steel Coporation and the United Steelworkers of America, 31 July 1980.

[j] Matching contribution from member state.

APPENDIX 2

Sources

Betänkande fran aldrearbetskommittén, *För Gammal För Arbete?*, Stockholm, 1983.

G. Bruche and Bernard Casey, *Work or Retirement, Labour Market and Social Policies for Older Workers in France, Great Britain, the Netherlands, Sweden and the USA*, IIM/LMP 82-9, May 1982, International Institute of Management, Berlin.

Central Statistical Office, unpublished data, The Hague, 1985.

Commission of the European Communities, *Social Europe*, various issues, Luxembourg.

——————, *Labour Force Sample Surveys*, Luxembourg, various issues.

——————, *Efficiency of Labour Market and Employment Policy Measures*, Study No. 82/6, Brussels, 1982.

Denmarks statistik, *Statistisk Arbog*, Copenhagen, various issues.

——————, *Arbeidsmarket*, Copenhagen, various issues.

Department of Employment, *Employment Gazette*, HMSO, London, various issues.

European Industrial Relations Review, Manchester, various issues.

W. Franz, "Is Less More? The Current Discussion About Reduced Working Time in Western Germany: A Survey of the Debate", *Journal of Institutional and Theoretical Economics*, vol. 140, 1984, pp. 626-654.

International Labour Office, *The Reduction of Working Time*, Geneva, 1984.

——————, *Social and Labour Bulletin*, Geneva, various issues.

International Social Security Administration, *Retirement Age Practices in Ten Industrial Societies*, 1960-1976, Studies and Research No. 14, Geneva, 1979.

——————, *Social Security and Disability, Issues in Policy Research*, Studies and Research No. 17, Geneva, 1981.

——————, *Social Security, Unemployment and Premature Retirement*, Studies and Research No. 22, Geneva, 1985.

——————, *International Social Security Review*, Geneva, various issues.

Instituto Centrale di Statistica, *Annuario di Statistico del Lavoro*, Rome, various issues.

Intersocial, "Les Pré-Retraites en Europe", No. 62, juillet-aout 1980.

Journal Official de la République Française, "La Cessation Anticipée d'Activité Salariée", 23 octobre 1985.

D. Metcalf, *Alternatives to Unemployment: Special Employment Measures in Britain*, Policy Studies Institute, 1982, London.

Ministère des Affaires Sociales et de la Solidarité Nationale, *Travail et Emploi*, avril-juin 1983, No. 16, Paris.

Ministère de l'Economie, des Finances et du Budget, INSEE, *Annuaire Statistique de la France, 1984*, Paris, 1985.

——————, INSEE, *Données Sociales 1984*, Paris.

——————, INSEE, *Enquête sur l'Emploi de 1984*, Les Collections de l'INSEE, D 105, Paris, 1984.

Ministère du Travail, de l'Emploi et de la Formation Professionnelle, *Bilan de l'Emploi 1984*, Paris.

——————, *Dossiers Statistiques du Travail et de l'Emploi*, various issues.

Ministère des Affaires Economiques, *L'Economie Belge en 1983*, Bruxelles, 1984.

Ministry of Labour, Planning Department, *Employment and Manpower Policy Measures in Finland*, Helsinki, 1982.

——————, *Labour Reports*, Helsinki, various issues.

Ministry of Labour, *Labour Market Policy Under Reconsideration*, Summary of a report from the Delegation for Labour Market Policy Research at the Swedish Ministry of Labour, Stockholm, 1984.

Nordic Statistical Secretariat, *Social Security in the Nordic Countries*, Statistical report No. 44, Helsinki, 1984.

OECD, *The Challenge of Unemployment*, Paris, 1982.

——————, *Employment Growth and Structural Change*, Paris, 1985.

——————, *Shorter Working Time*, Paris, 1984.

Oesterreichischen Statistischen Zentralamt, *Mikrozensus 1983*, Wien, 1984.

——————, *Statistisches Handbuch für die Republik Oesterreich*, Wien, various issues.

L'Office National de l'Emploi, *Bulletin Mensuel*, Bruxelles, various issues.

Relazione Generale Sulla Situazione Economica del Paese(1984), Il Lavoro e la Protezione Sociale, volume terzo, Roma, 1985.

J. Richardson and R. Henning, (eds.), *Unemployment, Policy Responses of Western Democracies*, Sage Modern Politics Series Volume 8, London, 1984.

H.M. Schellhaas and P. Weis, "The Effects of Early Retirement on the Level of Employment", *Journal of Institutional and Theoretical Economics*, Band 140, Heft 3, September 1984.

Social and Cultural Planning Office, *Social and Cultural Report, 1982*, The Hague, 1983.

Statistics Canada, *The Labour Force*, Ottawa, various issues.

Statistiska Meddelanden, *The Labour Force Surveys 1970-80*, AM 1981:33, Stockholm.

——————, *Arbetskraftsandersokningara 1984*, AM12 SM8501, Stockholm.

Statistisk Sentralbyrå, *Statistisk Årbok*, Oslo, various issues.

——————, *Statistisk Manedshefte*, Oslo, various issues.

Statistisches Bundesamt, *Statistisches Jahrbuch*, Wiesbaden, various issues.

Tilastokeskus, *Suomen Tilastollinen Vuosikirja*, Helsinki, various issues.

United Nations, Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984.

——————, *Economic Bulletin for Europe*, vol. 35, No. 3, Pergamon Press for the United Nations, September 1983.

United States Department of Health and Human Services, Social Security Administration, Social Security Bulletin, Washington, D.C., various issues.

——————, Social Security Administration, *Social Security Programs Throughout the World 1983*, Research Report no. 59, Washington D.C., 1984.

United States Department of Labor, *Employment and Earnings*, Washington D.C., various issues

——————, *Monthly Labor Review*, Washington, D.C., various issues.

Chapter 3

CENTRALLY PLANNED ECONOMIES OF EASTERN EUROPE AND THE SOVIET UNION

3.1 GENERAL ECONOMIC DEVELOPMENTS

This section analyses recent and medium-term economic developments and also short- and medium-term prospects in eastern Europe and the Soviet Union. The growth rate of aggregate net material product of the seven countries concerned in 1985 (somewhat above 3.5 per cent) was below that in 1984. The expansion of gross industrial production was more stable. The Soviet net material product utilized for domestic consumption and accumulation increased faster than in 1984. Altogether the change of aggregate net material product produced in 1985 in the seven countries suggests a temporary departure from the underlying trend of growth rather than a change in the trend itself. In recent years, gains in efficiency have been achieved, but energy and raw material costs per unit of output remain high. Exports expanded less than imports and in some countries trade deficits reappeared with the developed market economies. Accumulation has recently tended to grow faster than total consumption. Five-year plan strategies, and also the annual plans for 1986, call for faster economic growth and increased efficiency. Part (i) offers a summary of current trends and prospects, and is followed by more detailed analysis of recent and medium-term growth (subsection (ii)), of factor inputs and efficiency (subsection (iii)), of foreign economic relations (subsection (iv)) and of changes in the allocation of resources for domestic utilization (subsection (v)). The underlying strategies for the period 1986-1990 are presented in subsection (vi) and policy objectives and prospects for 1986 in subsection (vii).

(i) Summary of current trends and prospects

The acceleration in the overall pace of economic growth in eastern Europe and the Soviet Union, which began in 1982-1983 and was more or less maintained in 1984, did not continue in 1985. Net material product (NMP produced)—national income originating in sectors of the material sphere—in the seven countries taken together accelerated to 4.1 per cent in 1983, eased to 3.8 per cent in 1984 and fell further to an estimated 3.5 per cent in 1985. However, aggregate gross industrial output in the countries concerned in 1985 expanded by almost 4 per cent as compared with 4.3 per cent recorded in 1983-1984. This suggests that the change in the growth rate of NMP produced in 1985 should be interpreted as a temporary departure from the pace of economic growth recently attained rather than a change in the underlying trend. Nevertheless, it is clear that the maintenance of that pace proved more demanding than had been assumed in the annual and five-year plans.

In eastern Europe as a whole (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania), economic growth had accelerated in several previous years, resulting in a 7 percentage point change between 1981 (when NMP produced fell by 2 per cent) and 1984 (when it rose by over 5 per cent). This acceleration was reversed in 1985; the combined NMP produced of the six countries in that year rose by about 3 1/2 per cent—only two thirds of the rate in 1984. However, aggregate industrial output of the six countries expanded by 4 per cent in 1985 as compared with 4.8 per cent in 1984, which indicates that the pace of growth in the biggest sector of the economy did not change substantially.

In the Soviet Union, where stagnating gross agricultural output had already pulled down the growth rate of NMP produced to 3.2 per cent in 1984 as compared with 4.2 per cent in 1983, the level of gross agricultural production did not change in 1985. In contrast, Soviet gross industrial production in 1985 continued to expand at virtually the same rate as in the previous year (by 3.9 per cent compared with 4.1 per cent). Nevertheless the output losses in agriculture, and also in some manufacturing branches dependent on agricultural supplies, held back overall performance. In fact, Soviet NMP produced in 1985 increased by 3.5 per cent as compared with 3.2 per cent in 1984. Net material product utilized for domestic consumption and accumulation (NMP used) expanded by more than 3 per cent in 1985 as compared with 2.6 per cent in 1984. Part of the rise in NMP used reflected a considerable fall in net exports (i.e., a smaller surplus on the balance of trade) compared with the previous year.

Soviet performance in 1985 was close to the target envisaged in the annual plan (which refers to NMP used only), while performance in eastern Europe fell considerably below the aggregate growth target for NMP produced derived from the six countries' annual targets for that year.

A similar pattern emerges when five-year plan targets for 1981-1985 and actual performance are compared. In the Soviet Union, the 3.2 per cent annual average growth rate of NMP used was close to that retained in the five-year plan (3.4 per cent), while the actual 2.2 per cent average annual rise in NMP produced in eastern Europe as a whole was considerably below the 3.3 per cent annual rate implied by their combined five-year plan targets. But the annual and medium-term aggregate figures for eastern Europe as a whole conceal substantial differences among individual countries with regard both to targets and actual performance.

Changes in both supply and demand factors played a role in shaping economic developments throughout the area in 1985. On the supply side, an unusually harsh winter had a considerable impact in almost all the countries concerned. Coal and electricity production were adversely affected in most east European countries and in the Soviet Union, as was oil output in the latter, and transport services were also disrupted at the beginning of 1985. All countries but Czechoslovakia and the German Democratic Republic experienced energy shortfalls to a greater or lesser extent, which in turn held back performance in other sectors—particularly industry. Hence, the pace of economic growth in the first quarter mostly lagged substantially behind plans. In addition, the slower growth or even decline in Soviet oil output, energy shortages in several east European countries and subsequent production shortfalls in manufacturing, together with worse than expected agricultural performance, have all held back the growth of exports. Efforts to catch up partly compensated for these shortfalls in subsequent quarters in several countries, but in some of them the effects of output and export losses persisted over the whole year. In addition, a prolonged drought, which extended over several years in Bulgaria and also in Hungary and Romania, affected agricultural output and exports. Hence, although the level of agricultural output in eastern Europe as a whole in 1984 was the highest on record, it is clear that this sector has had a destabilizing effect on recent economic developments in most east European countries. In the Soviet Union, frequent shortfalls in agricultural output, and fluctuations in its growth in individual years, had a similar effect, and held back NMP growth considerably below the level which would otherwise have been achieved.

On the demand side, the slowdown in world trade and, in particular, in the import demand of the developed market economies, combined with increasing competition from both developed and developing countries, contributed to the depression of exports of most east European countries and the Soviet Union. The trade surplus recorded with the developed market economies in recent years probably turned into a deficit in the Soviet Union and also in some east European countries. The current account of eastern Europe as a whole nevertheless remained in surplus, albeit considerably reduced. Fresh credits obtained during 1985 were partly reflected in the $8-9 billion rise in overall indebtedness of the seven countries. Part of this can be attributed to the recent depreciation of the US dollar, as most of the foreign debt of the countries concerned has been denominated in non-dollar currencies. On the other hand, the long standing rouble trade deficit of the east European countries in their trade with the Soviet Union may have shifted into surplus in 1985, reflecting an orientation towards more balanced Soviet-east European trade over the medium term.

Because of substantially reduced trade surpluses, and contrary to the position in recent years, resources for domestic use (NMP used) in the Soviet Union, as already mentioned, may have increased more than NMP produced in 1985. The same was true for some east European countries. No comprehensive data are as yet available about the allocation of resources for domestic use in 1985. Judging from partial information, accumulation appears to have increased faster than total consumption in 1985. Changes in private and public consumption were not uniform, but largely followed the trends laid down in previous policies in each country.

While recent developments in eastern Europe and the Soviet Union—in particular in 1985—can be interpreted in the light of short-term factors such as climatic conditions and external constraints, these have not been decisive in the medium- and long-term. Previous issues of the *Economic Survey of Europe*, as well as analyses in the countries concerned, have pointed out the excessively high levels of energy and raw material consumption per unit of national output, the insufficient growth of labour productivity and declining capital productivity as underlying factors inhibiting economic growth and competitiveness. Preliminary assessments of medium-term developments in 1981-1985 indicate that, in most countries reviewed here, structural changes were implemented only slowly, and that a real transition to intensive, i.e., resource-efficient output growth is still to be achieved.

In spite of considerable efforts, changes in management and planning have so far been insufficient to meet the challenge of the current stage of economic development. There is, however, no consensus as to whether this is a consequence of an incomplete implementation of the changes introduced in the 1970s and at the beginning of the 1980s, or whether inconsistencies between the measures introduced have played a role.

The guidelines and other documents on the five-year plans for 1986-1990 include considerably higher output growth objectives than achieved in 1981-1985. This is particluarly so for the six east European countries: the combined NMP produced growth target for 1986-1990, according to provisional plan documents, is envisaged to be more than twice as high as attained in 1981-1985 (4.6 per cent against 2.2 per cent). In the Soviet Union—for which NMP used is the main planning aggregate—an average rate of 3.5-4.1 per cent annually is foreseen, compared with 3.2 per cent recorded in 1981-1985. Accelerated economic growth is to be achieved mainly through more efficient use of all factor inputs—energy, raw materials, fixed assets and labour—as possibilities for expanding their use at previous rates seem to be exhausted. Hence, most countries now envisage a ''radical'' turnround towards ''intensive'', i.e., genuinely resource-efficient economic development. Accordingly, various changes in their management and planning systems are being discussed.

Policy statements indicate that an increasing role in development is to be played by foreign trade—in particular through more intensive co-operation within the Council of Mutual Economic Assistance (CMEA). There are also indications that accumulation and investment will rise faster than consumption, reflecting the need to accelerate structural changes. Higher investment growth, combined with a reorientation towards reconstructing and upgrading existing plant rather than building new capacity, may well presage higher demand for western technologies and growing east-west trade. Developments in this respect will, however, depend on the buoyancy of inflows of convertible currency. Increases in living standards remain a high-ranking objective and are a central element of medium- and long-term economic and social development strategies in all seven countries.

(ii) Recent and medium-term growth

There are a number of reasons why an assessment of economic development in eastern Europe and the Soviet Union in 1985 is of particular interest. First, 1985 is the closing year of the five-year plan period which started in 1981, and thus the year on which assessment of many of the performance indicators for 1981-1985 as a whole will focus. Similarly, 1985 is the base year for all five-year plan figures for 1986-1990 (except for agricultural performance and investment, where five-year averages are usually compared rather than levels in 1985 and 1990). Last but not least, 1985 is the fourth year following the lowest post-war growth in aggregate NMP produced recorded for the seven countries combined (1.7 per cent in 1981). It is thus something of a trial year for assessing the duration of a new trend that may have started in 1982 and continued in 1983-1984.

However, NMP produced, which has usually been applied as the main indicator of overall economic developments in the centrally planned economies, is sensitive to net output changes in some material-intensive sectors—particularly agriculture. Hence, annual volume changes in NMP produced do not necessarily reflect changes in the underlying trend of economic development. [218] Finally, in the preliminary plan fulfilment report issued in January each year, the Central Statistical Office of the Soviet Union reports only information on aggregate domestic uses (NMP used for domestic consumption and accumulation), whereas all the other countries in question report figures on NMP produced. To avoid distortions due to the aggregation of two different NMP sets, the last two issues of the *Economic Survey of Europe* incorporated secretariat estimates for Soviet NMP produced which ultimately proved to be fairly accurate. [219] Such estimates present considerable difficulties, since no precise annual figures are available at the time of writing on the changes in the items that distinguish NMP produced from NMP used. [220] Furthermore, such estimates become more hazardous if the relationship between the growth rates of NMP produced and NMP used changes in the year reviewed. Accordingly, the estimated growth rate of NMP produced in 1985 (3 per cent) [221] reported in the pre-publication version of this *Survey* was used with caution, and interpreted together with gross output indicators of the main output sectors. Thus the findings on Soviet economic growth presented in that version are still valid although the Soviet Union communicated a new figure for NMP produced growth directly to the secretariat in March 1986—3.5 per cent instead of the estimated 3 per cent.

Taking into account all the available information, it seems that the most important characteristics of recent and medium-term growth in eastern Europe and the Soviet Union can be summarized under a number of separate headings, and assessed in the light of the other details presented in tables 3.1.1 and 3.1.2 and also in charts 3.1.1 and 3.1.2.

(a) Direction and scale of changes in output in 1985

As to the *direction of changes*, there is no doubt that 1985 will be remembered as a disappointing year. Growth rates of NMP produced declined in all six east European countries—something which has not occurred in any other year since 1970 except 1978. This is also true for the Soviet Union in 1984-1985 as compared with 1983. However, despite the apparently similar direction of change, decelerating NMP growth does not mean the same for eastern Europe as for the Soviet Union, or for the individual east European countries.

In eastern Europe as a whole, an acceleration in economic growth lasting for some years prior to 1985 had brought about a substantial change—from a 2 per cent fall in 1982 to a 5.3 per cent rise in 1984. It could have been expected that the NMP growth rate would not increase further. The combined 1985 NMP produced target for the six countries in itself anticipated a half percentage point slowdown in 1984 (to 4.8 per cent). Accordingly, though Czechoslovakia planned to maintain the growth rate attained in 1984 and Romania even targeted a further increase in its already high rate of expansion, for eastern Europe as a whole it is not so much the *direction* of changes in output growth performance that is striking, but rather their *scale*. The difference between output growth rates between individual countries is also worthy of note.

The almost 2 percentage point decline in the combined NMP growth rate of the six east European countries in a single year is in itself a cause for concern, and this is clearly felt in some of them—the more so as the performance of most countries was considerably below the plan objectives.

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[218] During the last ten years or so, change in agricultural output as reflected in NMP growth rates masked the prevailing trends in the Soviet economy on at least two occasions. Judging only by the NMP growth rate of 2.2 per cent, the year 1979 would appear to have been the low point of a decelerating trend that started in the mid-1970s. However, the deceleration in fact continued, as the annual change in Soviet NMP produced in 1979 largely resulted from a bad harvest (gross agricultural output fell by more than 3 per cent—see Appendix tables B.1 and B.13). Conversely, agricultural performance also distorted the underlying trend of Soviet NMP in 1982, when a sharp upturn in the growth rate of agricultural output (more than 6 percentage points—from a l per cent fall in 1981 to a rise of 5.5 percentage points in 1982), accelerated the growth of NMP produced. In fact the underlying deceleration, as determined by the rate of growth of industrial production, continued until mid-1983.

[219] The ECE secretariat estimate of Soviet NMP produced in 1983 was 4 per cent, as compared with the 4.2 per cent later reported in Soviet sources. The respective figures for 1984 were 3 per cent and 3.2 per cent. See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984, p. 101 and United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 89.

[220] These are net exports/imports (the surplus or a deficit on balance of trade) and compensation for losses paid during the year.

[221] The estimate of the growth rate of Soviet NMP produced in 1985 in the pre-publication version of this *Survey* was based on a definition of NMP produced as the difference between gross material product (*valovoi obshchestvenny produkt*, hereafter referred to as GMP) and the sum of intermediate consumption and depreciation charges. The weighted growth rates of gross industrial, agricultural, construction and transport output, which accounted for some 92 per cent of the Soviet GMP in 1984 (see *Narodnoe khozyaistvo SSSR v 1984 g.*, Moscow, 1985, p. 52), on a basis consistent with the GMP concept, indicate that the overall GMP of the Soviet Union in comparable 1984 prices probably increased by 2.9 per cent. In the preliminary national report on developments in 1985, it was explicitly stated that the "material intensity of the social product (GMP—editorial note) decreased" (*Pravda*, 26 January 1985, p. 1). Intermediate consumption accounted for a very large share of GMP in 1984 (about 50 per cent). Since depreciation charges account for a rather low share of GMP (8-9 per cent), changes in them would not significantly effect the results and can be ignored. Thus it was concluded that Soviet NMP produced in 1985 increased at least in parallel with GMP, i.e., by no less than 2.9 per cent.

Changes in the growth of NMP produced can be also estimated from the utilization side as well as from the production (origin) side. NMP produced in this case may be defined as NMP used plus net exports (when there is a surplus on balance of trade), or minus net imports (when there is a deficit in the balance of trade), plus compensation for losses paid during the year. Using estimates of foreign trade performance in 1985 (based on data reported for the first three-quarters of the year), it was calculated that in 1985 Soviet NMP produced grew more slowly than NMP used i.e.,—by less than 3.1 per cent.

Taking into account the above facts, an estimate of 3 per cent was retained for the growth of Soviet NMP produced. However, it was also mentioned that most Soviet sources on the national accounting system, and also some editions of the national statistical yearbooks, contain explicit warnings that the growth of NMP produced relative to the growth of NMP used also reflect certain structural issues—including changes in the structure of exports and imports. See, for example *Narodnoe khozyaistvo SSSR v 1974 g.*, (Statistical Yearbook of the USSR in 1975), Moscow, 1975, p. 797, and also M.R.Eidel'man, *Statistika obshchestvennogo produkta i natsionalnogo dokhoda v SSSR* (Statistics of Social Product and National Incomes of USSR), Moscow, Statistika, 1980, p. 59. The possibility that Soviet NMP produced increased by more than 3 per cent, and thus by more than NMP used (3.1 per cent) was explicity mentioned in the pre-publication version of this study.

TABLE 3.1.1

Net material product
(*Annual percentage change*)

	1976-1980	*1981*	*1982*	*1983*	*1984*	*1985*	*Plan 1985*	*1981-1985*	*Plan 1981-1985*	*Plan 1981-1985* [a]	*Plan 1986*
Bulgaria	6.1	5.0	4.2	3.0	4.6	1.8	4.1	3.7	3.7	4.1	4.0
Czechoslovakia	3.7	−0.1	0.2	2.3	3.5	3.1	3.0	1.8	1.6-2.2	1.9	3.5
German Dem. Rep.	4.1	4.8	2.6	4.6	5.5	4.8	4.4	4.5	5.1	4.6	4.4
Hungary	2.8	2.5	2.6	0.3	2.5	−1	2.3-2.8	1.4	2.7-3.2	1.8	2.3-2.7
Poland	1.2	−12.0	−5.5	6.0	5.6	3	3-3.5	−0.8 4.9[b]	3.2-3.8[c]	2.7	3.1-3.4
Romania	7.2	2.2	2.7	3.7	7.7	5.9	10	4.4	7.1	6.9	10-12
Eastern Europe	3.6	−1.9	0.1	3.9	5.3	3.5	4.8	2.2	3.3	..	5.1
Soviet Union	4.3	3.3	3.9	4.2	3.2	3.5	4.0*	3.6	3.8*	3.8*	
	3.8[d]	3.2[d]	3.5[d]	3.6[d]	2.6[d]	3.1[d]	3.5[d]	3.2[d]	3.4[d]	3.3[d]	3.8
Eastern Europe and the Soviet Union	4.1	1.7	2.8	4.1	3.8	3.5	4.2	3.2	3.3-3.4	..	4.2

Source: National statistics, plan and plan fulfilment reports.

[a] Five-year growth rate implied by the annual plans 1981-1985.

[b] Three-year 1983-1985 average annual performance.

[c] Three-year plan 1983-1985.

[d] Net material product used for domestic consumption and accumulation.

TABLE 3.1.2

Gross material product (GMP)
(*Annual percentage change*)

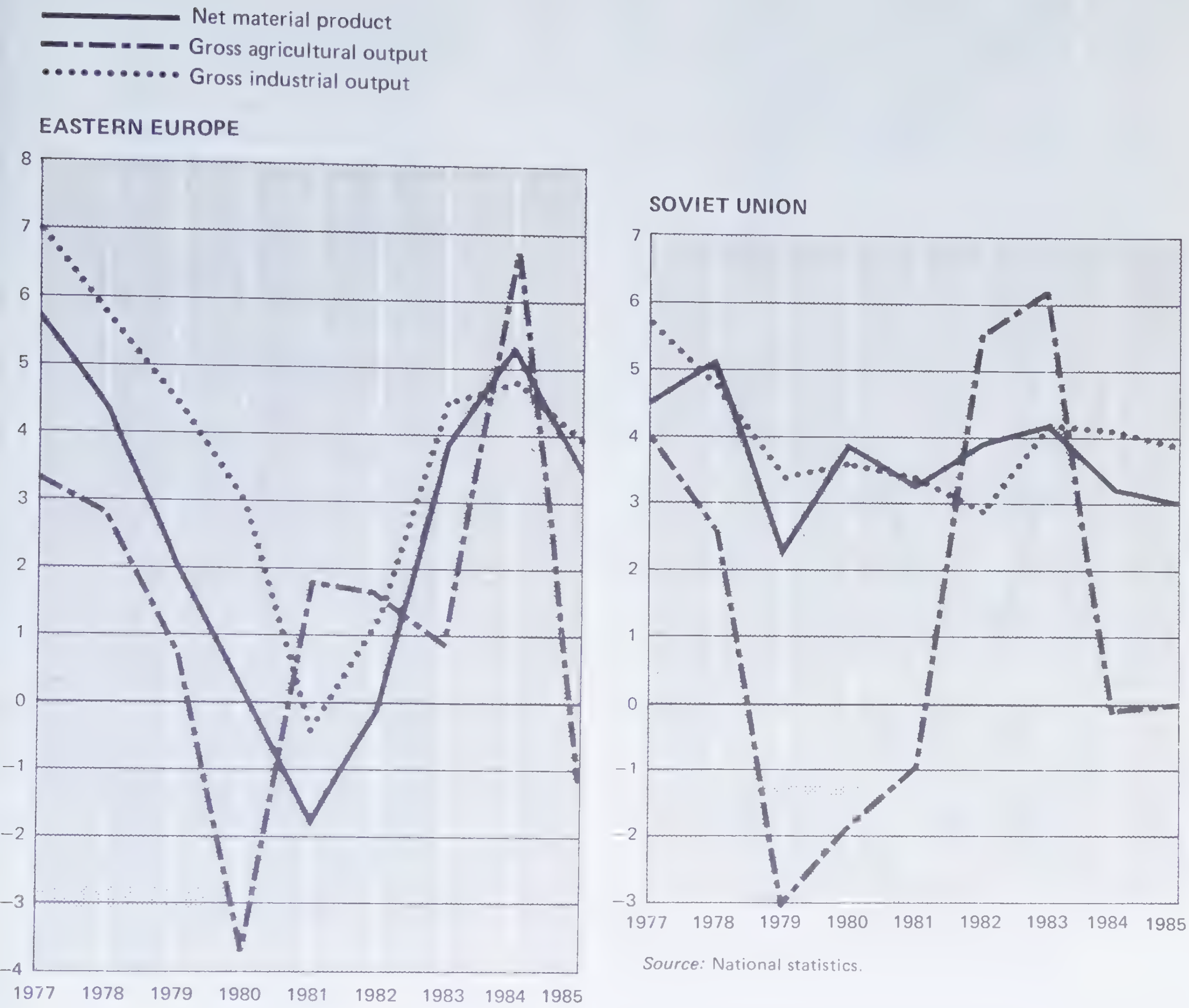
	1976-1980	*1981*	*1982*	*1983*	*1984*	*1985*	*Plan 1986*
Bulgaria							
GMP total	5.9	5.9	3.3	3.6	4.4	2.2*	..
Industry	6.0	5.4	4.6	4.3	4.2	4.0	4.5
Agriculture	2.1	5.9	5.2	−7.2	7.0	−11.1	7.4
Construction	5.9	5.9	3.0	3.1	4.8	1.8	3.2
Czechoslovakia							
GMP total	3.7	0.3	1.1	3.0	1.9	2.6*	1.8
Industry	4.7	2.1	1.1	2.8	4.0	3.4	2.6
Agriculture	1.6	−2.5	4.4	4.2	4.4	−1.6	0.4
Construction	3.0	−1.8	−3.8	2.8	1.8	1.1	3
German Dem. Rep.							
GMP total	4.3	3.7	0.3	2.8	3.7	4.2*	..
Industry	5.0	4.7	3.1	4.1	4.2	4.4	3.8
Agriculture	1.3	1.6	−4.0	4.1	6.2	3.0	0.8
Construction	3.3	4.1	3.0	2.9	2.7	3.9	3.2
Hungary							
GMP total	3.4	2.5	2.8	0.7	2.8	−0.6*	.
Industry	3.4	2.4	2.5	1.2	3.2	1.0	2.2
Agriculture	2.9	2.0	7.3	−2.7	2.9	−6.0	3.3
Construction	2.4	−0.2	0.5	−3.4	−4.6	−5	1.0-1.5
Poland							
GMP total	1.2	−12.1	−5.6	5.9	5.7	3.4*	..
Industry	4.7	−10.8	−2.1	6.4	5.2	3.8	3.2-3.6
Agriculture	0.5	3.8	−2.8	3.3	5.7	0.9	1.1-2.7
Construction	−0.5	−21.0	−6.1	6.4	6.6	..	3.5
Romania							
GMP total	6.8	0.4	2.5	3.0	7.5	3.8*	7.0-8.0
Industry	9.5	2.6	1.1	4.7	6.7	4.9	8.5
Agriculture	4.9	−0.9	7.6	−1.6	13.3	0.1	6.5
Construction	5.8	−4.8	1.0	11.4	5.5		
Soviet Union							
GMP total	4.2	3.2	3.3	4.3	3.6	2.9*	..
Industry	4.5	3.4	2.9	4.2	4.1	3.9	4.3
Agriculture	1.7	−1.0	5.5	6.2	−0.1	—	4.4
Construction	2.1	2.6	2.9	3.8	1.8	2.5*	.

Source: National statistics; *Statisticheskii ezhegodnik stran-chlenov SEV 1984* (CMEA Statistical Yearbook 1984), pp. 17-24; *ibid.*, 1985 pp. 41-50; plans and plan fulfilment reports

CHART 3.1.1

Net material product and sectoral gross output

(Annual percentage change)



Source: National statistics.

As for the *diversity of changes* among individual east European countries, the most pronounced and unexpected result occurred in Hungary, where a 2.5 per cent rate of growth in 1984 was followed by a 1 per cent decline in the level of NMP in 1985. The country next most affected was Bulgaria, where the almost 3 percentage point decline in the NMP growth rate between 1984 (4.6 per cent) and 1985 (1.8 per cent) was comparable to that of Hungary. Poland is the third country where the deceleration was quite pronounced, its NMP growth rate of 3 per cent in 1985 being roughly only half of that recorded in the previous year. But it should also be noted that a similar deceleration had been envisaged in the Polish annual plan. The smallest change in the NMP growth rate occurred in Czechoslovakia, followed by the German Democratic Republic—these being the only countries in which the actual NMP growth rate was above the plan target. The highest rate in 1985 was claimed by Romania—almost 6 per cent, as compared with 10 per cent envisaged by the national plan. The continued high growth performance of the German Democratic Republic, the stability of development in Czechoslovakia in 1983-1985 and the reappearance of a contraction in NMP produced in Hungary can thus be singled out as the most striking features of NMP growth in the east European countries.

It is considerably more difficult to assess the scale of output changes in the Soviet Union. As already mentioned, NMP produced in that country increased by 3.5 per cent, compared with 3.2 per cent in 1984 and 4.2 per cent in 1983. As for the direction of change, here again, in spite of the higher rate recorded in 1985, the period 1984-1985 has witnessed a deceleration in the growth rate of Soviet NMP produced. The same is true for gross material product, which increased by 4.3 per cent in 1983, 3.6 per cent in 1984 and an estimated 3 per cent in 1985. However, the Soviet annual and five-year plans do not contain any target for NMP produced or for gross material product,

CHART 3.1.2

Net material product

(Annual percentage change)

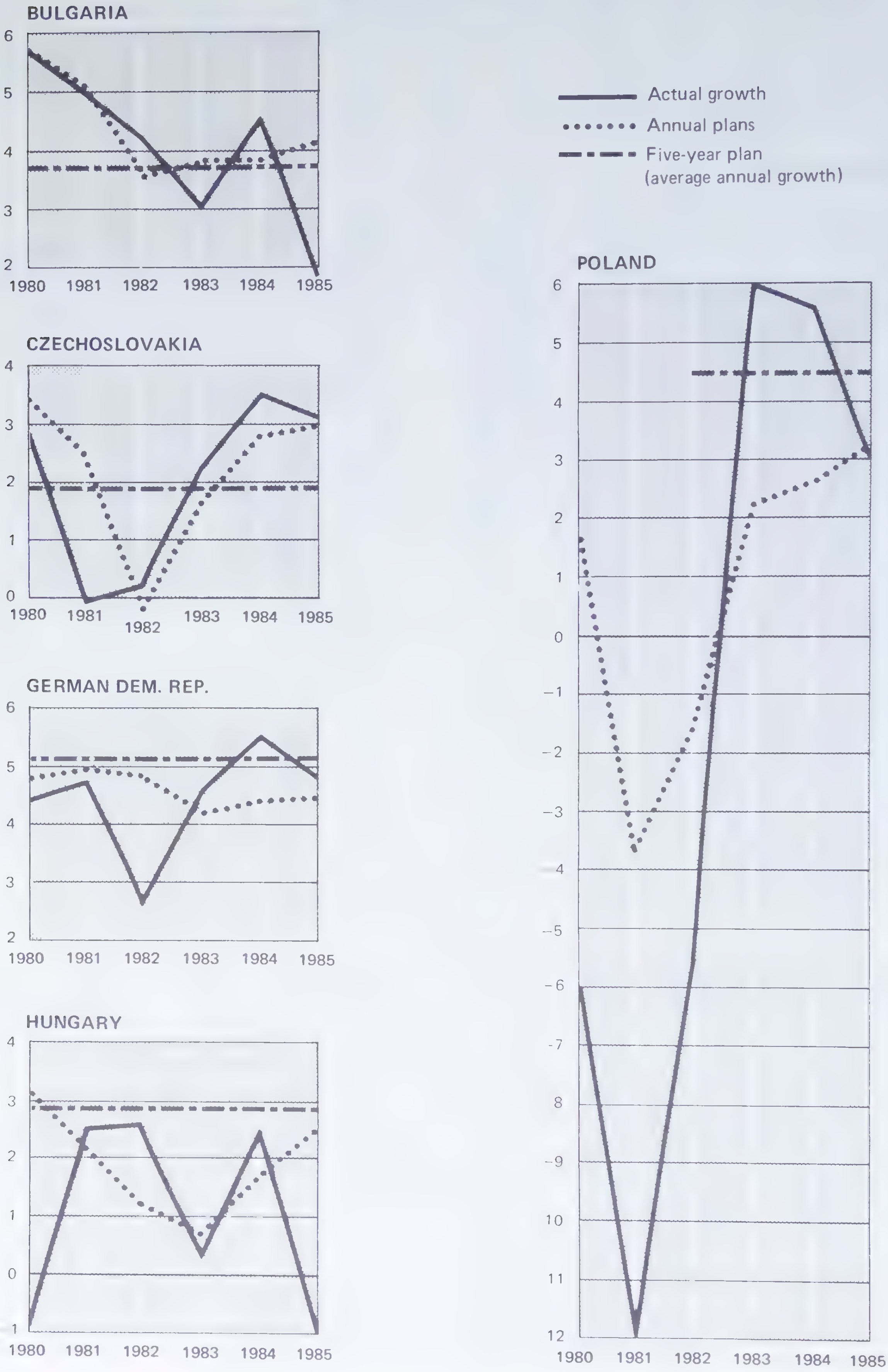
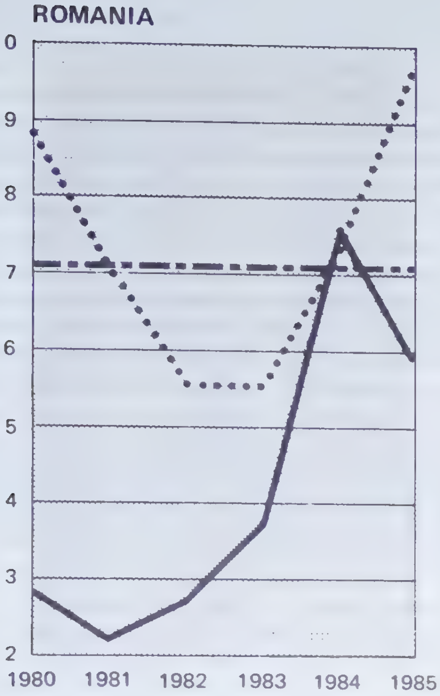
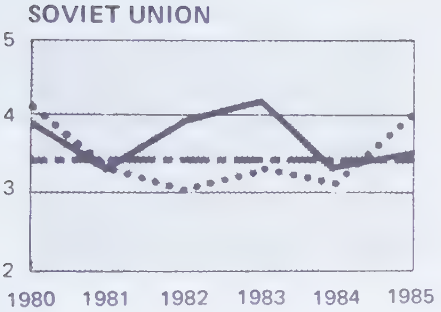


CHART 3.1.2 (Continued)





Source: National statistics.

but refer instead to NMP used. Hence, though it is almost certain that the growth of Soviet NMP produced and gross material product in 1984-1985 decelerated compared with 1983, it is not known whether the slowdown had been incorporated into the growth objectives for those two years, or whether actual growth rates have deviated from the growth path planned. Furthermore, the 3.1 per cent growth of NMP used in 1985—although above the 2.6 per cent rate of 1984—was below the rate envisaged by the annual plan for 1985 (3.5 per cent).

(b) The medium-term significance of changes in 1985

Once the direction and scale of changes in NMP produced—the main development indicator—have been determined for 1985, the crucial issue is their medium-term significance. Put another way: are the changes in 1985 a temporary departure from the recently attained rate of about 3.5-4 per cent, or do they indicate a change in underlying trends? In answering this question, a number of issues relating, *inter alia*, to the growth of NMP itself should be borne in mind.

In eastern Europe, as already shown, the 1985 decline in the combined NMP growth rate was the first following two years of acceleration. Thus, it would be premature to draw conclusions concerning a change in the trend, even though future growth could settle down at rates lower than the 5 per cent or more recorded in 1984. In the Soviet Union, the slowdown in the growth of NMP produced—if it really happened—was the second in consecutive years. This is also too short a period to draw conclusions about a change in trend.

A more significant criterion for assessing changes in 1985 is the *relationship between NMP growth and output performance in the main sectors of economic activity*. However, since national plan fulfilment reports rarely give net output data on sectoral developments, overall NMP produced growth rates can only be compared with sectoral gross output growth rates. Chart 3.1.1 and table 3.1.2 are both instructive in this respect. They clearly show a significant association between NMP produced and gross industrial output growth rates in both eastern Europe and the Soviet Union—in particular in eastern Europe. This is a normal reflection of the high share of industrial production in overall national output in all the countries concerned.[222]

If changes in the growth rates of NMP produced in 1985 are set against the accompanying changes in gross industrial production, it seems clear that the slowdown in 1985 was a temporary departure from the growth rates attained in 1983-1984, and does not signify a change in the underlying trend of economic activity. The pace of industrial expansion in the Soviet Union in 1985 remained virtually unchanged (about 4 per cent in both years), while in eastern Europe the deceleration was less than one percentage point (from 4.8 per cent in 1984 to 4 per cent in 1985). Thus, the abrupt change in the growth rate of gross agricultural output in eastern Europe (almost 8 percentage points, from a 7 per cent rise in 1984 to a fall of around 1 per cent in 1985) seems to be one of the main factors responsible for the larger than expected decline in the growth rate of NMP produced. A similar explanation seems to be valid for the Soviet Union: its gross agricultural output stagnated in both 1984 and 1985, affecting overall NMP performance both directly—due to losses in net agricultural output itself—and indirectly, as a result of losses in industrial branches dependent on agricultural supplies. The latter factor was probably particularly important in 1985, since stocks of agricultural raw materials from domestic production were probably then low, following the poor harvest in 1984.

Another argument supporting the interpretation that NMP changes in 1985 were a fluctuation around the trend of recently attained growth rates is grounded in certain abnormal features of *industrial production* itself. These are discussed in detail in section 3.3 below. The harsh winter, which brought about shortfalls in electricity, coal and oil production in several of the countries concerned, also disrupted the transport sector. This seriously affected industrial production in both eastern Europe and the Soviet Union. Subsequent effects on export deliveries, combined with higher than planned energy consumption, compromised an already tight energy situation and adversely affected the balance of trade. This in turn imposed constraints on industrial and overall performance, especially in some east European countries.

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[222] In 1984, the share of industry in NMP produced ranged between 49.6 per cent in Poland and 62.2 per cent in the German Democratic Republic. *Statisticheskii ezhegodnik stran-chlenov SEV 1985* (CMEA Statistical Yearbook), Moscow, 1985, p. 56.

(c) Implementation of the five-year plans output targets

Preliminary data for 1985, combined with developments in the previous four years, offer an opportunity to assess the overall implementation of the five-year plan targets of the seven countries concerned. Although possible revisions of the preliminary figures for 1985 could modify the cumulative figures for 1981-1985, some tentative conclusions can nevertheless be drawn.

If the three-year plan of Poland for 1983-1985 is combined with the five-year plan targets of the remaining five other east European countries, the growth rate of aggregate NMP produced (2.2 per cent) in eastern Europe in 1981-1985 indicates that production targets (about 3.3 per cent annually) were achieved to the extent of two thirds for the area as a whole. The performance of individual east European countries varied considerably.

Bulgaria and *Czechoslovakia* are the countries which largely attained their five-year NMP targets. Bulgarian performance could have been even better, but two exceptionally poor agricultural years (1983 and 1985), and the hard winter 1984/85 had severely affected national performance.[223] In Czechoslovakia, the average annual growth rate of NMP produced (1.8 per cent) falls within the range (1.6-2.2 per cent) envisaged in the five-year plan, and is virtually the same as implied by the five annual plans for the 1981-1985 period. Thus, the five-year plan target was also met. In addition, it is worthy of note that in Czechoslovakia the five-year period 1981-1985 had two clearly different sub-periods. In 1981-1982, when NMP produced virtually stagnated, priority was given to adjustment policies—notably the redressment of foreign balances. In 1983-1985, when external balance had been restored and various bottlenecks overcome, NMP performance was considerably better and in fact rather stable.

Hungary and *Romania* form a second group of countries. In Romania, the average annual growth rate of NMP produced (4.4 per cent) is the second highest among the east European countries, preceded by the German Democratic Republic. However, its expansion was uneven during the period reviewed and reached only some three fifths of the five-year plan target. This confirms the assessment in a previous issue of the *Survey* that the 1981-1985 five-year plan strategy of Romania was based "on a rather optimistic scenario, which may not in fact materialize".[224] In *Hungary*, the average annual rate of growth of NMP produced in 1981-1985 (1.4 per cent) is only about half that indicated by the five-year plan (2.7-3.2 per cent). However, it is noteworthy that the annual plans incorporated some downward revision of the five-year plan targets—though the average annual rate actually attained was also below the revised annual NMP target (1.8 per cent).[225]

The special circumstances of *Poland* in recent years argue for a separate treatment of its five-year economic performance. Taking into account only its three-year plan for 1983-1985, actual NMP performance in those years (average growth of 4.9 percent annually) can be judged successful, as the rate achieved was close to the upper limit of the target (3.5-5.6 per cent). However, it should be also borne in mind that this growth rate was achieved from a very low base, the NMP level in 1982 having been lower than in 1974. By 1985, Poland's NMP produced had still attained only about 90 per cent of its pre-crisis peak in 1978.

The best NMP growth performance of all the east European countries was achieved by the *German Democratic Republic* in 1981-1985. The rate was not only the highest among the countries concerned, but came so close to its original five-year plan target. In addition it was virtually the same as indicated by the five respective annual plans of the country, which imply a slight reduction of the original five-year target. Finally, it should also be mentioned that NMP growth in the German Democratic Republic was rather stable, growth rates in all years but 1982 being virtually identical. Many factors, ranging from its location in central Europe and relatively easier access to western markets, to a long industrial tradition, have played a role here. Nevertheless, the above-average performance of the German Democratic Republic seems first of all to be due to a timely reorientation towards a resource-efficient path of economic development (a subject to be dealt with in the next subsection and in also in section 3.4 below).

In the *Soviet Union*, as already mentioned, the main synthetic planning indicator for both five-year and annual plans is NMP used. Judging by this indicator alone, the Soviet Union managed to implement its five-year plan for 1981-1985, *NMP used* growing at an average annual rate of 3.2 per cent —virtually the same as planned (3.4 per cent). Despite the slower expansion in 1984-1985 as compared with 1983, *NMP produced* grew at a somewhat higher annual rate (3.6 per cent) in 1981-1985. However, since no five-year plan target for NMP produced was published, it is not possible to assess the degree to which the plan was fulfilled. Disappointing agricultural production—output contracted in one and stagnated in two of the five years reviewed,—necessarily had a negative impact on overall Soviet performance.

(d) Long-term output growth considerations

Finally, developments in 1981-1985 should also be reviewed in a longer perspective. A comparison with the previous quinquennium seems appropriate, since it was then that a considerable deceleration in economic growth in terms of NMP produced began in all European centrally planned economies. Table 3.1.1 shows that only the *German Democratic Republic*, which grew at an average rate of 4.5 per cent in 1981-1985, succeeded in maintaining and even surpassing its performance in 1976-1980 (4.1 per cent). In all other countries, average NMP growth rates in 1981-1985 fell to a greater or lesser extent below those of the previous five-year period. The difference in NMP growth between the two periods was smallest in the case of the *Soviet Union* (4.3 per cent and 3.6 per cent respectively in NMP produced, and 3.8 per cent and 3.2 per cent in terms of NMP used). In *Romania* and *Bulgaria*, growth rates of NMP produced in 1981-1985 (4.4 and 3.7 per cent respectively) settled at just under two thirds the rates attained in 1976-1980 (7.2 per cent and 6.1 per cent respectively). In both *Czechoslovakia* and *Hungary*, the growth rates of NMP produced recorded in 1976-1980 were halved in the subsequent five-year period. In addition, NMP produced in both quinquennia grew considerably more slowly than in the other countries mentioned above. In spite of a marked recovery in 1983-1985, the dramatic contraction in output levels in 1981-1982 gave rise to a negative growth rate in *Poland* for 1981-1985 as a whole (−0.8 per cent), as compared with an average annual rise of 1.2 per cent in 1976-1980.

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[223] In fact, the Bulgarian authorities clearly aimed higher than the five-year plan target: the combined annual plan NMP targets for 1981-1985 (table 3.1.1) indicate that the original NMP produced target for the period was revised upwards.

[224] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, New York, 1982, p. 161.

[225] Possibilities for both upward and downwards revision of the five-year plan targets, according to external conditions and progress in raising overall domestic efficiency, was explicitly envisaged in the "Act on the Sixth Five-Year Plan of the National Economy (1981-1985)" of Hungary. See *Economic Bulletin of the National Bank of Hungary*, Budapest, vol. XXIV, 1981, No.2, p. 91.

Altogether, overall performance in 1981-1985 as compared with 1976-1980 indicates that the long-term decelerating trend which became apparent in the 1970s has not yet been checked. The factors which determine this deceleration are quite complex, ranging from unfavourable changes in the world economic situation and the exhaustion of possibilities of expanding productive resources, to deficiencies in management and planning systems. These are now being discussed in most of the countries concerned. In one way or another, all of them have contributed to slower and decelerating factor productivity growth (discussed in more detail in sections 1.2 and 3.8). The resolution of these and other growth constraints is thus a challenge that most east European countries and the Soviet Union will be facing in 1986-1990, and possibly beyond.

(iii) Factor inputs and efficiency

Various aspects of factor inputs and efficiency (labour productivity, investment/output ratios, capital productivity and material intensity) have been discussed regularly in this publication.[226] In addition, long-run trends in capital and total factor productivity are analysed in sections 1.2 above and 3.8 below. Hence, in the present subsection only a summary review of recent developments is offered. Emphasis is placed on medium-term changes (1981-1985), as efficiency indicators can fluctuate quite widely from year to year. This approach is also the most practicable, since many of the necessary indicators (e.g., gross output, fixed assets in the material sphere, etc.) have not yet been reported for 1985 or are only available in the form of rough estimates.

(a) Employment and labour productivity

Tables 3.1.3 and 3.1.4 and also chart 3.1.3 illustrate recent changes in employment and labour productivity. *Total employment* in 1981-1985 increased very slowly and at rates similar to 1976-1980 in four out of the seven countries concerned (Bulgaria, Czechoslovakia, the German Democratic Republic and Romania). In Hungary, employment continued to decline, and at somewhat faster rates than in 1976-1980. In the Soviet Union, the average annual growth rate of total employment in 1981-1985 (0.7 per cent) was only half that recorded in 1976-1980. But the most pronounced change occurred in Poland, where the average growth rate of total employment in 1976-1980 (0.6 per cent) was followed by an average annual decline (0.3 per cent) in 1981-1985. All the changes described reflect primarily long-term demographic developments. However, the employment decline in Poland in 1981-1985 was accelerated by an early retirement scheme offered in 1981.[227] According to the latest information available, the Polish government is presently attempting to offset this decline in labour input by re-introducing Saturday work, at least in some critical sectors and in agreement with the management and trade unions of the plants concerned.

Given the increasing demand for services originating in the non-material sphere, *employment in the material sphere* in all the seven countries concerned (except perhaps in Romania) grew more slowly or decreased faster than total employment in 1981-1985. In fact, the average annual growth rate of material sphere employment in 1981-1985 was only 0.5 per cent in the Soviet Union and even lower in Bulgaria, Czechoslovakia, the German Democratic Republic and Romania, while it contracted by some 0.5-1 per cent in Hungary and Poland.

In situations when the labour force in the material sphere increased only slowly, virtually stagnated or even contracted, *labour productivity* (net material product per worker in the material sphere) began to contribute increasingly to output (NMP produced) growth. This is usually indicated by the share of labour productivity in total output growth. Indeed, in some cases the share was even above 100 per cent (when the level of employment in the material sphere contracted). In most of the countries concerned, this is interpreted as a positive development. However, the real meaning of changes in labour productivity seems to be more complex, as shown in detail in section 1.2. A rising contribution of labour productivity changes to output growth can be interpreted as a positive phenomenon only if labour productivity growth rates increase or remain constant. But this was not the case in several years between 1980 and 1985, and labour productivity growth rates accelerated in some years and decelerated in others. In fact, as shown in chart 3.1.3, changes in actual labour productivity were closely associated with changes in NMP produced—including, in most cases, years when output growth slowed down. This explains why—at least in some years—changes in labour productivity can be interpreted as dependent rather than an explanatory factor of change in output growth.[228] Put another way, in cases when factors other than labour productivity itself constrain output growth, potential labour productivity embodied in labour skills and fixed assets cannot be wholly translated into output. Thus, actual labour productivity can either stagnate or even decline, but in any case remains below its potential level. Additional evidence that this may have been the case in most of the countries concerned is provided by a comparison of changes in labour productivity in 1981-1985 and in the previous five-year period (table 3.1.4). Indeed, the fact that average annual NMP produced per employee in the material sphere in 1981-1985 decelerated to a greater or lesser extent in all countries but the German Democratic Republic shows that labour productivity needs to be examined in conjunction with other efficiency issues. However, due to the mainly labour productivity-oriented interpretation of the process of "intensification", this approach has not been followed up in most of the countries reviewed.

(b) Investment, fixed assets and capital productivity

Changes in investment, fixed assets and capital productivity throw more light on efficiency issues in the east European countries and the Soviet Union. Falling capital productivity was a general feature of all the economies concerned in 1976-1980, and continued in 1981-1985. This in itself is not sufficient to understand all aspect of the real developments involved. Indeed, tables 3.1.4 and 3.1.5, and also charts 3.1.3 and 3.1.4, offer several other significant conclusions.

First, it should be noted that the relationship between changes in NMP produced and capital productivity (NMP

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[226] For labour productivity (including the distinction between actual and potential labour productivity) and also capital productivity, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984, pp. 106-111; for material inputs, material intensity and also investment and investment/output ratios, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 95-99.

[227] According to *Trybuna Ludu*, 12-13 February 1982, of a total of 793,000 employees who retired in 1981, some 374,000, or almost half, did so on the basis of the early retirement scheme. This explains the bulk (71 per cent) of the 2.9 per cent fall in total employment in that year (524,000 employees).

[228] See also United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, pp. 211-215.

TABLE 3.1.3

Employment, total and in the material sphere
(*Annual percentage change*)

	Total employment							*Employment in the material sphere*						
	1976-1980	*1981-1985**	*1981*	*1982*	*1983*	*1984*	*1985*	*1976-1980*	*1981-1985**	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria [a]	0.3	0.4	1.3	0.7	0.1	—	—*	—	0.2	1.2	0.6	0.1	−0.5	−0.2
Czechoslovakia	0.8	0.7	0.7	0.4	0.4	0.9	0.9	0.4	0.4	0.3	0.1	0.4	0.7	0.7
German Democratic Republic [b]	0.7	0.6	0.5	0.6	0.7	0.5	0.5*	0.5	0.3	0.2	0.2	0.4	0.3	0.3*
Hungary	−0.3	−0.6	−0.3	−0.6	−0.6	−0.5	−0.7	—	−0.6	−0.1	0.2	−1.1	−1.1	−1*
Poland	0.6	−0.3	0.8	−2.9	−0.3	0.3	0.7	0.3	−0.8	0.2	−3.1	−0.8	−0.3	−0.2
Romania	0.3	0.2	−0.3	0.7	0.6	0.1	—	0.1	0.2	−0.6	0.5	0.7	0.2	—*
Soviet Union	1.4	0.7	0.9	0.9	0.6	0.6	0.4*	1.1	0.5	0.7	0.7	0.5	0.4	0.1*

Source: As for table 3.1.1.

[a] Total employment refers to workers and employees only. Employment in the material sphere was estimated from growth of NMP produced and NMP produced per employee in the material sphere.

[b] Employment at 30 September (excluding apprentices).

TABLE 3.1.4

Labour productivity and capital productivity
(*Annual percentage change*)

	Labour productivity [a]							*Capital productivity [b]*						
	1976-1980	*1981-1985**	*1981*	*1982*	*1983*	*1984*	*1985*	*1976-1980*	*1981-1985**	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	6.2	3.5	3.8	3.6	2.9	5.1	2	−1.8	−2.4	−2.3	−3.2	−3.8	−0.4	−2.2
Czechoslovakia	3.3	1.4	−0.4	0.2	1.9	2.8	2.4	−1.9	−3.4	−5.4	−4.7	−2.7	−1.3	−1.3
German Democratic Republic	3.6	4.2	4.6	2.3	4.2	5.2	4.5*	−1.5	−0.4	−0.2	−2.9	−0.5	1.1	0.3
Hungary	3.7	2.2	2.6	3.6	0.2	3.6	1*	−3.1	−2.8	−2.7	−1.5	−4.2	−1.4	−3.4
Poland	0.9	—	−12.2	−2.5	6.9	5.9	3.2	−5.5	−3.2	−14.7	−6.7	3.3	2.8	0.5
Romania	7.2	4.2	2.8	2.2	2.9	7.5	5.9*	−2.9	−4.5	−5.8	−6.8	−4.7	−2.5	−2.8
Soviet Union	3.2	3.0	2.6	3.2	3.7	2.8	3.4	−2.9	−1.9	−3.2	−2.5	−2.7	−2	—

Source: As for table 3.1.1 for labour productivity. For capital productivity calculated on the basis of the *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), 1981, pp. 25-34, 49; *ibid.* 1984 pp. 42, *ibid.* 1985 pp. 31-40, 41-50, 61 and plan fulfilment reports for 1985.

[a] Net material product per employee in the material sphere.

[b] Net material product per fixed assets in the material sphere.

produced per unit of fixed assets) is not as close as that between NMP produced and labour productivity. In fact, while changes go in the same direction in most cases, they sometimes lag behind or clearly diverge (as in the Soviet Union). The explanation is that the pace of growth of fixed assets depends mainly on investment growth in previous years, on the length of time lags between capital spending and the bringing into operation of the fixed assets created, and on changes in rates of retirement of obsolete equipment. Hence, the growth of fixed assets is not necessarily associated with current rates of NMP expansion. For this reason, falling capital productivity levels in 1981-1985 can be interpreted in terms of the fast growth of the stocks of fixed assets themselves (which reflects relatively high investment growth at the end of the 1970s), and also the deceleration of NMP growth.

Second, the relationships described between changes in NMP produced, fixed assets and capital productivity, throw light on the capital productivity changes in eastern Europe and the Soviet Union in 1981-1985. For instance, in 1981-1985 capital productivity levels fell mostly in Romania, where investment expansion in 1976-1980 was stronger than in any other country reviewed. Another case where capital productivity levels fell rapidly is Czechoslovakia. This reflects primarily weak NMP growth in 1981-1982. In other countries, capital productivity levels in 1981-1985 also declined, but they did so more slowly than in 1976-1980. Finally, it should be noted that capital productivity declines moderated considerably in most countries under review in 1983-1985, while in 1985—if estimates for that year prove correct—three countries may have achieved rises in capital productivity. Given the contraction of investments in five out of the six east European countries in 1981-1985 (it fell by almost 1 per cent per year for eastern Europe as a whole), and also the slower investment expansion in the Soviet Union in the same period (table 3.1.5), fixed assets in the coming years are unlikely to grow at previous rates. However, further improvements in capital productivity cannot be taken for granted, as changes in fixed assets are only part of the story. In other words: falling growth rates of fixed assets in the material sphere can bring about increasing capital productivity *only* if NMP growth rates meanwhile increase or at least maintain the levels recently achieved. This depends, first of all, on increasing efficiency in the utilization of energy and raw material inputs and, consequently, on further technical progress, changes in the volume and structure of investments and fixed assets and, last but not least, on changes in management and planning which will promote efficiency.

(c) *Material intensity*

Besides labour productivity and capital productivity, material intensity is a third important efficiency indicator. Due to

CHART 3.1.3

Net material product, labour productivity and capital productivity

(Net percentage change)

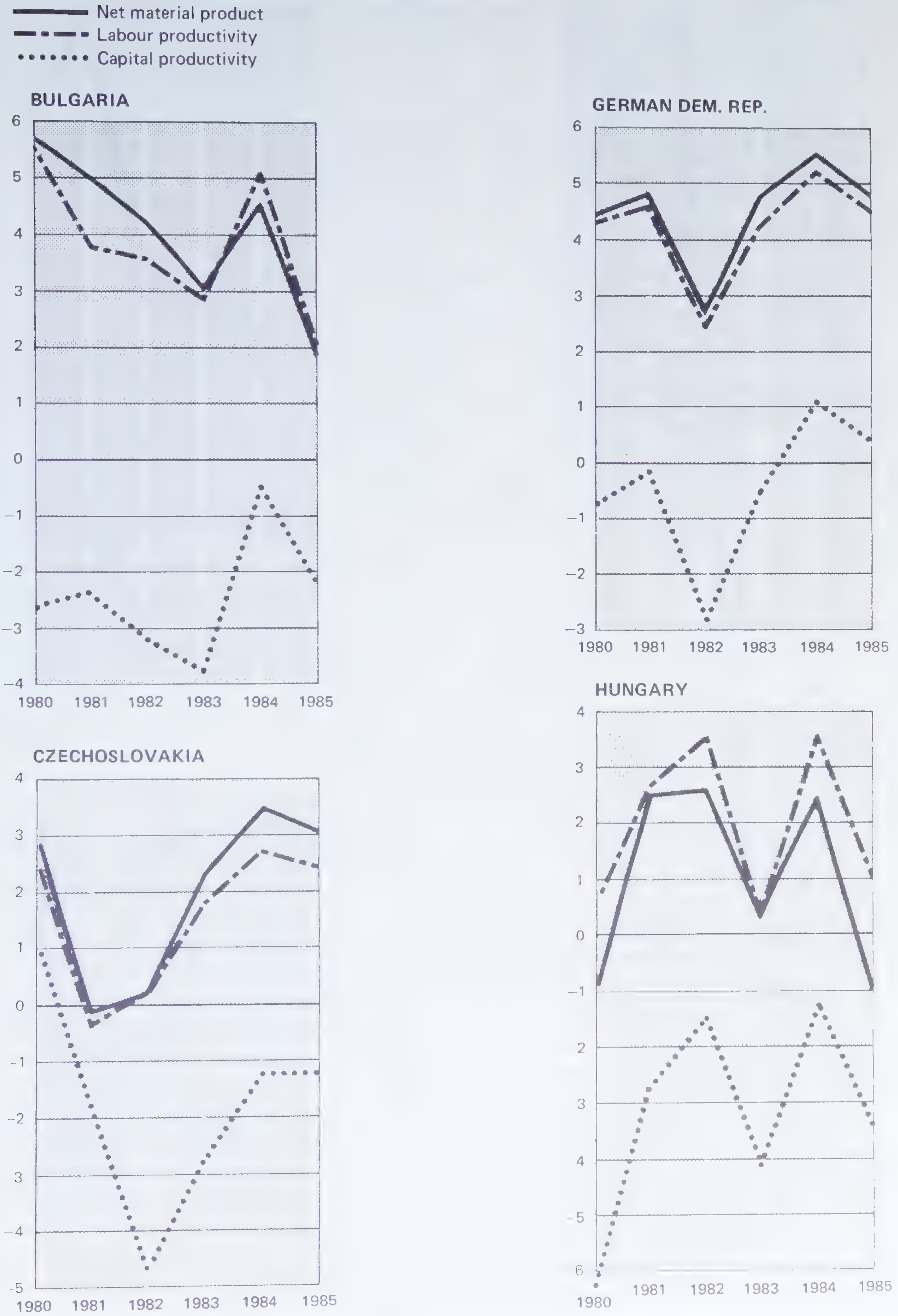
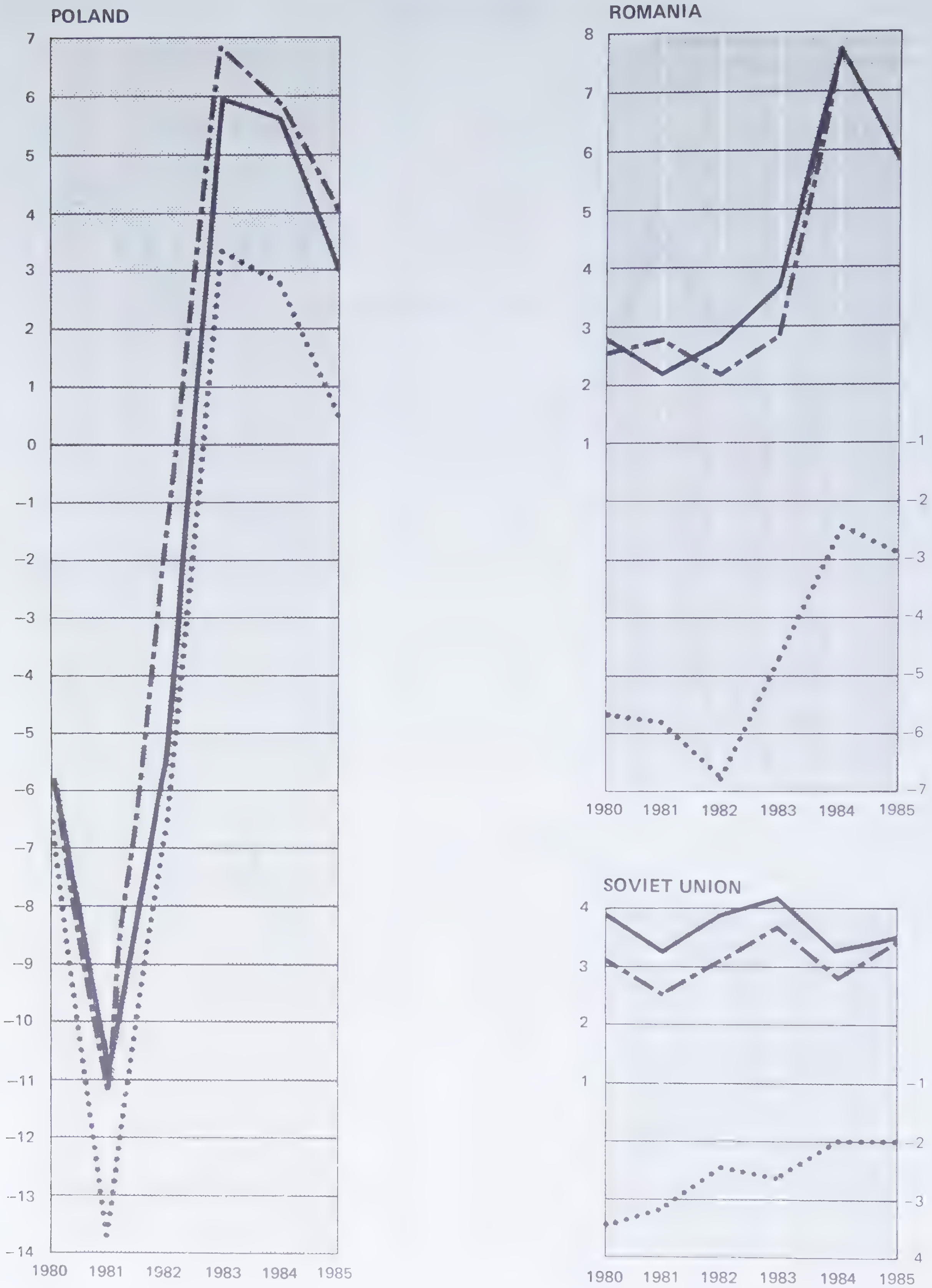


CHART 3.1.3 (Continued)



Source: National statistics.

TABLE 3.1.5

Gross investment
(*Annual percentage change*)

	1976-1980	1981	1982	1983	1984	1985	1981-1985	Plan 1981-1985
Bulgaria	4.0	10.5	3.6	0.7	0.3	2.5	3.4	3.6
Czechoslovakia	3.5	−4.6	−2.3	0.6	−4.2	5.5	−1.1	−(2.1-0)
German Democratic Republic	3.4	2.7	−5.2	−0.0	−4.9	4.5	−0.7	0.5
Hungary	2.2	−4.3	−1.6	−3.4	−3.7	−3	−3.2	—
Poland	3.0	−22.3	−12.1	9.4	11.4	5	−2.7	−0.4[a]
Romania	8.5	−7.1	3.1	2.4	6.1	1.6	−0.1	5.2
Eastern Europe	2.7	−7.1	−4.4	2.3	2.3	3.4	−0.8	−0.1
Soviet Union	3.4	3.8	3.6	5.7	1.8	2.9	3.5	2.1
Eastern Europe and the Soviet Union	3.2	0.3	1.2	4.7	2.0	3.0	2.2	1.4

Source: As for table 3.1.1.

[a] Three-year plan 1983-1985.

the wide range of raw materials and intermediate goods used, it is not possible to construct a synthetic indicator of physical changes in this respect. However, it is possible to measure changes in material intensity by examining the relationship between gross material product and net material product (the GMP/NMP ratio). A declining ratio suggests increasing efficiency (i.e., a fall in the material intensity of output). Table 3.1.6 shows changes in these ratios over the last ten years, and chart 3.1.5 illustrates them for 1981-1985. They suggest two main conclusions. Expressed by GMP/NMP ratios, material intensity in 1981-1985 fell in three of the seven countries concerned and in the remaining four practically stagnated. In addition, except in 1985—when poor agricultural performance to some extent distorted the underlying movement in some of the countries concerned—changes in the latter part of the five-year period reviewed were generally more favourable than in the first two years observed. This reflected, among other things, the easing of growth constraints and improving NMP performance. However, taking into account the strong emphasis put on "intensive" i.e., resource-efficient development, changes still seem to be slow and insufficient, except in the German Democratic Republic. This was the only country where the decline in material intensity persisted throughout the whole period observed. The level of material intensity in that country in 1981-1985 decreased by almost 8 per cent, followed by Romania and Poland where the changes were about 3 per cent and 2 per cent respectively.

Although the authorities in most of the countries reviewed regularly express dissatisfaction with the pace of decreases in the material intensity of production, national reports often contain other figures which indicate that the actual improvement may have been greater than implied by GMP/NMP ratios. This could be possible for at least two reasons. First, though the GMP/NMP ratio is considered a reliable indicator of material intensity and efficiency, it is still significant that the difference between the two production aggregates is made up not only of intermediate inputs, but also includes depreciation charges. Hence, if depreciation charges increase, they could offset decreases in material inputs and thus distort the real significance of the ratio. Judging by the recent policy reorientation towards faster renewal of obsolete technology and quicker depreciation, it could be justified to assume that real improvements in the material intensity of production may have been larger than shown by GMP/NMP ratios—though they cannot be quantified. On the other hand, it should also be borne in mind that neither GMP nor NMP produced, even when expressed in constant prices, are completely free of price influences or, at least, of changes in price relatives—in particular in the foreign trade sector. Thus, if the cost of material inputs—especially imports—increases faster than output prices, NMP may grow more slowly than GMP and thus the GMP/NMP ratio could stagnate or even increase even though "real" material intensity declines.[229]

TABLE 3.1.6

Gross material product to net material product ratio [a]
(*Annual percentage changes*)

	1976-1980	1981-1985*	1981	1982	1983	1984	1985*
Bulgaria	−0.2	0.2	0.7	−0.8	0.5	—	0.4
Czechoslovakia	—	—	—	1.1	0.5	−1.0	−0.5
German Dem. Rep.	0.2	−1.6	−1.3	−2.0	−1.7	−2.4	−0.6
Hungary	0.6	0.2	0.2	0.2	0.3	—	0.4
Poland	—	−0.4	0.1	−3.3	0.5	0.2	0.4
Romania	−0.2	−0.6	−1.6	—	−0.9	0.2	−0.6
Soviet Union	−0.2	0.1	—	−0.6	—	—	−0.6

Source: *Statisticheskii ezhegodnik stran-chlenov SEV 1984* (CMEA Statistical Yearbook 1984), Moscow 1984, pp. 17-24 and *ibid.*, 1985 pp.41-50.

[a] Calculated from the ratio of the index of gross material output divided by the index of net material output.

To identify possible distortions which could originate in the monetary nature of GMP and NMP indicators, it may be helpful to scrutinize a number of indicators expressed in physical units which, though partial, may still be significant. For this purpose, *energy* and *steel intensity* were selected.

Table 3.1.7 suggests several conclusions. First, it appears that the east European countries have made an effort to expand their indigenous *energy production*. Hence, in all of them, energy production in 1981-1984 (aggregate energy output figures for 1985 were not available at time of writing) grew faster than

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[229] In addition, the GMP/NMP ratios may be distorted by institutional changes, i.e., by the splitting up of existing economic units which contribute to GMP and NMP into smaller ones. This would bring about an illusory increment in GMP figures, due to an increased degree of double counting. However, no significant changes of this kind were reported by the countries concerned. The GMP/NMP ratio has thus been retained as a meaningful efficiency indicator, although GMP includes an element of double counting (i.e., the assumption of an unchanged coefficient of double counting in GMP figures is justified).

CHART 3.1.4

Net material product, investment and fixed assets in the material sphere

(Annual percentage change)

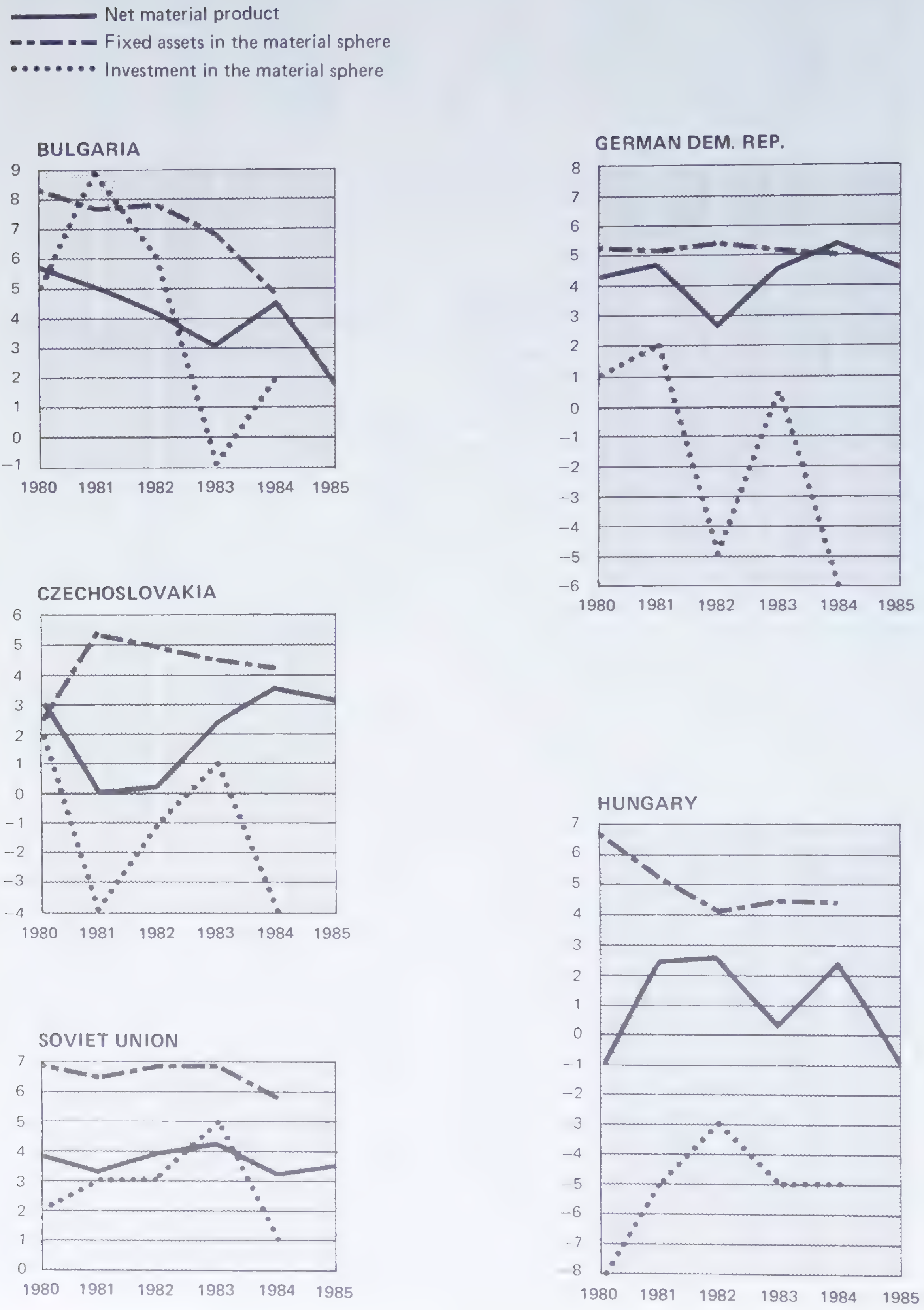
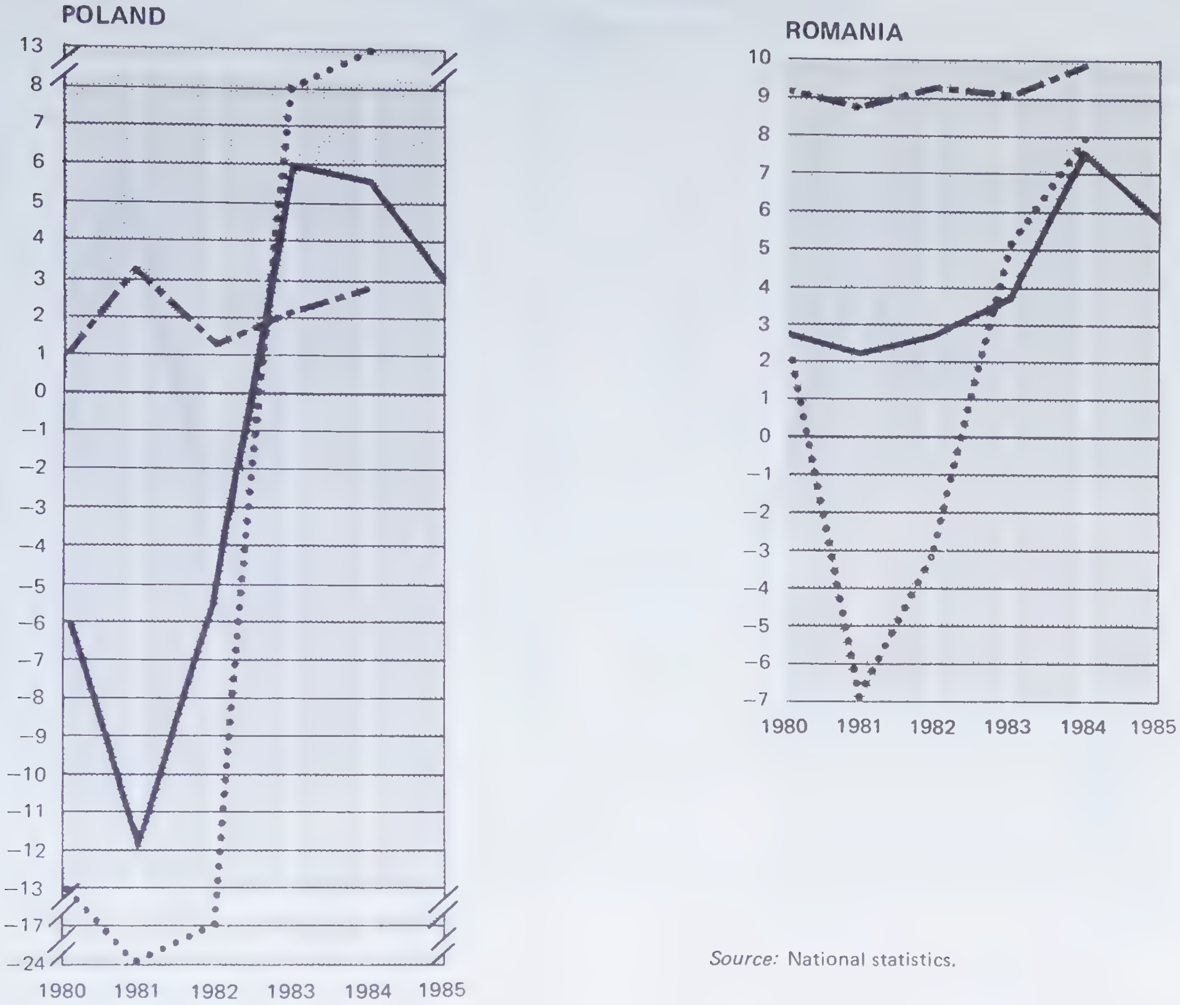


CHART 3.1.4 (Continued)



Source: National statistics.

in 1976-1980, although the expansion seems to have recently lost momentum in most of the countries concerned. In contrast, average annual energy production increases in the Soviet Union in 1981-1984 lagged behind those in 1976-1980, but a pace of some 2 per cent per year was nevertheless maintained. This shows that the adjustment to rising energy consumption in part took the form of expanding production. However, the fact that *energy consumption* in all east European countries in 1976-1980 increased considerably faster than energy production, especially in Hungary, Poland and Romania, inevitably increased pressures to adjust consumption levels. Total energy consumption in 1981-1984 in all east European countries thus expanded much more slowly than in 1976-1980, and virtually stagnated or even declined in some of them (Poland). But special efforts were undertaken to reduce energy consumption in the material sphere, and they led to substantial results. In fact, *energy intensity* (the ratio of total domestic energy consumption to NMP produced) declined in four of the six east European countries and also in the Soviet Union as early as 1976-1980. Moreover, in 1981-1984, the fall in the energy intensity of production spread to six out of the seven countries. However, energy intensity in 1981-1982 increased in Poland, but this reflects mainly the fall in NMP produced at the beginning of the 1980s. In 1983-1984, the energy intensity of production in Poland also contracted

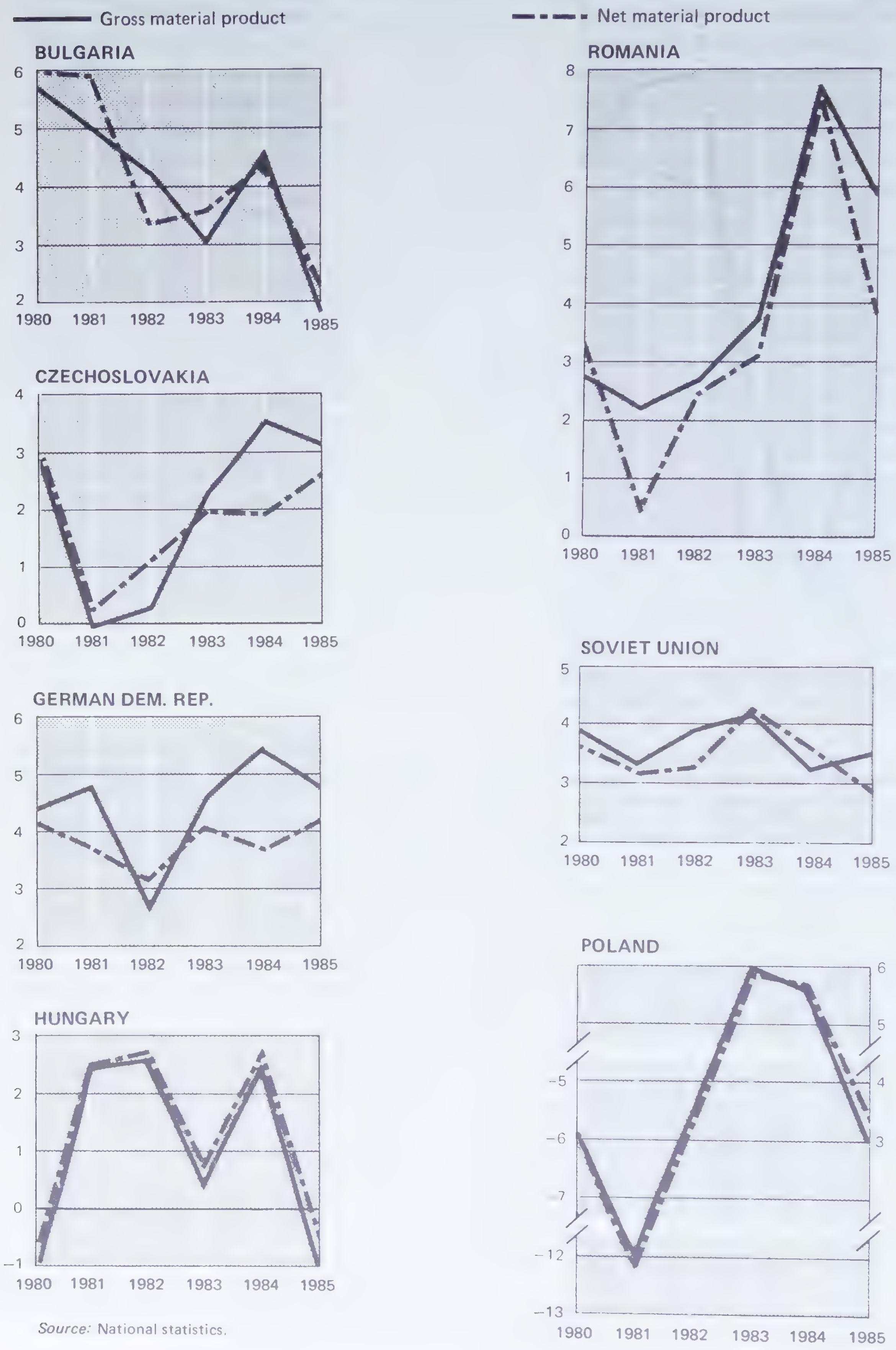
Similar findings are suggested by data on the *steel intensity* of national output of the countries reviewed (table 3.1.8). Although changes in this respect also reflect the product-mix of each economy, the last three columns of the table clearly show the underlying reduction of steel intensity in most of the countries concerned. It amounts to some 32 per cent in eastern Europe and about 25 per cent in the Soviet Union in 1970-1984 (figures for 1985 were not available at time of writing). In Bulgaria and the German Democratic Republic, the cumulative reduction in steel intensity was considerably larger than that of the east European average. In addition, the absolute level of steel consumption in 1984 as compared with 1980 declined in five out of the six countries concerned—by 10 per cent in eastern Europe as a whole. In Bulgaria and in the Soviet Union, the level of steel consumption increased over the same per[illegible], just under and just over 4 per cent, respectively. Due to the high share of the Soviet Union in the seven-country aggregate, steel consumption in eastern Europe and the Soviet Union as a whole in 1984 remained constant at the level of 1975.

Last but not least, it should be recalled that in spite of considerable improvements in recent years, overall levels of consumption of energy and raw material inputs per unit of national output remain comparatively high in most of the countries concerned. Although no exact overall figures in this respect have been reported (and hardly could be, given the problems in making consistent international comparisons of the value of national output and inputs), several sources have estimated that the level of energy and raw material inputs in most of the countries concerned is 30-40 per cent above that in the most

CHART 3.1.5

Gross material product and net material product

(Annual percentage change)



Source: National statistics.

TABLE 3.1.7

Selected energy indicators
(*Annual percentage change*)

	Bulgaria	Czechoslovakia	German Dem. Rep.	Hungary	Poland	Romania	Soviet Union
Total production							
1976-1980	4.2	1.5	1.6	2.0	1.9	1.6	4.5
1981	6.7	−0.5	3.5	0.2	−14.0	4.1	1.3
1982	8.2	1.0	2.9	3.7	13.8	0.6	2.5
1983	3.9	1.6	2.0	0.5	1.9	2.9	1.6
1984	0.5	1.3	6.1	2.2	1.6	−0.3	3.1
Total gross consumption							
1976-1980	6.0	2.8	2.7	4.2	4.0	5.0	3.6
1981	2.2	0.1	2.1	−0.9	−6.7	5.0	1.4
1982	3.7	−0.9	−0.6	0.0	2.3	-0.3	2.6
1983	0.7	−0.3	0.0	−0.3	0.4	1.7	1.5
1984	0.6	2.2	7.0	2.9	4.2	0.3	3.6
Energy intensity [a]							
1976-1980	−0.1	−0.9	−1.3	1.4	2.8	−2.1	−0.7
1981	−2.7	0.2	−2.6	−3.3	6.0	−2.4	−1.8
1982	−0.5	−1.1	−3.1	−2.5	6.0	−2.4	−1.8
1983	−2.2	−2.5	−4.4	−0.6	−5.3	−3.3	−2.6
1984	−3.8	−1.3	1.4	0.4	−1.3	−5.8	0.4
Production/consumption ratio							
1976-1980	0.28	0.69	0.70	0.56	1.04	0.87	1.17
1981	0.30	0.66	0.70	0.53	0.91	0.86	1.19
1982	0.31	0.68	0.73	0.55	1.01	0.85	1.19
1983	0.32	0.69	0.74	0.55	1.03	0.87	1.19
1984	0.32	0.68	0.73	0.54	1.00	0.86	1.18

Source: ECE Energy Division Data Bank.

[a] Total domestic energy consumption per net material product.

TABLE 3.1.8

Net material product, steel consumption and steel intensity of national output [a]

	NMP indices 1970 = 100			Steel consumption indices, 1970 = 100			Steel intensity [b]		
	1975	1980	1984	1975	1980	1984	1975-1970	1980-1975	1984-1980
Bulgaria	145.7	196.3	231.3	94.7	120.3	124.9	−8.3	−1.2	−3.2
Czechoslovakia	131.9	158.1	167.5	122.3	126.2	122.5	−1.5	−3.0	−2.2
German Dem. Rep.	130.2	159.4	189.2	104.9	107.4	98.4	−4.2	−3.5	−6.3
Hungary	135.3	155.6	168.2	123.6	114.7	104.7	−1.8	−4.2	−4.2
Poland	159.6	169.3	157.5	152.6	165.1	131.3	−0.9	0.4	−3.8
Romania	170.6	242.0	283.7	152.9	188.4	179.2	−2.2	−2.8	−5.1
Eastern Europe	146.8	175.3	188.3	130.4	141.5	127.3	−2.3	−1.9	−4.3
Soviet Union	131.6	162.5	187.6	127.9	134.9	140.6	−0.6	−3.1	−2.5
Eastern Europe and the Soviet Union	136.1	166.3	187.9	128.6	136.7	136.9	−1.1	−2.8	−3.0

Source: ECE secretariat, based on national statistics and ECE secretariat estimates for the Soviet Union in 1980 and 1984.

[a] Apparent steel consumption per unit of NMP produced.

[b] Average annual percentage change.

developed market economies—and for some inputs even higher.[230]

All of the above findings, and similar ones published in the countries concerned, clearly indicate that their development strategies should be increasingly directed towards strengthening previously announced but in most cases still inadequate efforts to achieve "intensive", i.e., genuinely resource-efficient economic growth. The importance of this is underlined by the fact that, as indicated by national sources, outlays for material resource-saving technologies amount to only 20-30 per cent of the outlays needed to provide additional supplies of the same materials.[231] Only in this way can further expansion of national output at current levels of energy and raw material inputs be ensured. This would furthermore provide room to accelerate labour productivity growth and to halt or reverse declines in capital productivity. Scientific and technical co-operation, within the seven-country area and also with other countries, could be advantageous in this respect, by helping to reduce costs and facilitating the required changes.

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[230] A corresponding 40 per cent average figure for all CMEA countries was given by Academician O. Bogomolov, Director of the Moscow Institute of the World Socialist Economic System, *Borba* (Belgrade), 26 July 1984, p. 6.

The still high level of energy consumption per unit of national income in most east European countries was also referred to by S. Stanev: "Energiiniyat problem pri sotsializma" (Energy Problem in Socialism), *Novo vreme*, Sofia, Vol. LXI, 1985, No. 8, p. 49.

The ECE secretariat estimates that the steel intensity of output (apparent steel consumption in kilogrammes of crude steel equivalents per unit of GDP in constant 1975 US dollars) in CMEA countries in 1980 (0.2129) was more than three times the corresponding estimate for the European Economic Community (0.0647) and the United States of America (0.0634), and indeed only slightly less than three times the level of all industrialized countries outside the CMEA group. See United Nations Economic Commission for Europe, *The Evolution of the Specific Consumption of Steel*, New York, 1984, p. 28.

[231] *Ekonomicheskaya gazeta*, October 1985, No. 40, p. 13.

(iv) Foreign economic relations

Foreign economic relations play a dual role in the economic developments of eastern Europe and the Soviet Union, as in other countries. On the one hand, they influence the pace and patterns of economic growth (i.e., by acting on the demand side), while on the other hand they shape the volume and structure of domestically used resources (i.e., by acting on the supply side). However, their effects are not felt to the same effect in all countries. There are big differences in this respect between the east European countries and the Soviet Union. In fact, enterprises in most centrally planned economies do not easily or quickly react to changes in foreign demand, because of the existence of intermediary organizations which operate the state monopoly of foreign trade. Instead, it is the central planners who have the task of balancing exports and imports or, as so far during the 1980s, of generating the trade surpluses necessary to redress payments imbalances. Thus changes in foreign demand, to the extent that they influence economic development, should be interpreted in terms of the absorption or disposal of national output, and of their role in shaping the volume and structure of resources for domestic utilization. They do not, in other words, make an autonomous demand contribution to output growth (see section 3.7 below). Nevertheless, the overall significance of changes in foreign demand thus understood has recently increased. It has generally been much bigger in the east European countries, especially in some of them, than in the Soviet Union, as is also shown in section 3.7 below. Since recent changes in the foreign trade of eastern Europe and the Soviet Union are dealt with in detail in section 3.6 below, only major developments are summarized in this subsection.

Comparisons of recent changes in output growth (tables 3.1.1 and 3.1.2) and in foreign trade (table 3.1.9) suggest the following conclusions. First, it it clear that *foreign trade activity*, as expressed by data in current prices, was rather buoyant in most countries. This seems to hold for the east European countries in general, and for some of them in particular. Secondly, a noticeable feature is the generally faster growth of exports than of imports, which has raised export/import ratios above 100 in all the countries concerned. However, the latest data in all four panels of table 3.1.9 show that the year 1985 diverged from this overall pattern. Indeed, if final full-year figures confirm the tendencies expressed in the first three quarters of 1985, foreign trade turnover apparently slowed down or in some cases even contracted in eastern Europe. It certainly contracted in the Soviet Union. Furthermore, imports continued to expand, while exports declined in both eastern Europe and the Soviet Union. Hence, export/import ratios in most of the seven countries declined, and in Bulgaria imports also exceeded exports in 1985.

Table 3.1.10 indicates the *regional diversification* of recent changes in the foreign trade of eastern Europe and the Soviet Union. It shows that, at current prices, the seven countries' foreign trade turnover in 1985 contracted with both the developed market economies and with the developing countries, especially in the case of the Soviet Union. In contrast, foreign trade turnover between the seven countries (intra-area trade turnover) continued to expand in both eastern Europe and the Soviet Union, though at a decelerating rate in the last two years.

These recent changes are also reflected in the *foreign trade balances* of eastern Europe and the Soviet Union (table 3.1.11 and chart 3.1.6). After three years of rising trade surpluses, the aggregate foreign trade surplus of the six east European countries declined slightly in 1985 compared with 1984. The 1985 Soviet surplus appears to have fallen to roughly one seventh of its record 1983-1984 levels. As for the regional distribution of foreign trade, it is noteworthy that the Soviet balance of trade with the developed market economies in 1985 turned into deficit, while both Soviet and east European balances with developing countries remained in surplus. In addition, balance of trade surpluses with the developed market economies also turned into deficit in some east European countries. Finally, it is worth mentioning that, according to foreign trade figures for the first three quarters of 1985, the aggregate annual trade balance of eastern Europe with the Soviet Union may have shifted into surplus.

Several factors have influenced recent foreign trade developments. The harsh winter, as already mentioned, seriously affected production in several industrial branches of most of the countries reviewed, which resulted in correspondingly lower output, smaller exports and larger imports. The winter was followed by drought. The subsequent weak agricultural output growth had similar effects on the output of manufacturing branches dependent on inputs originating in the farm sector, and on agricultural exports, while increasing demand for agricultural imports in some cases. The decreasing import and, in some cases, export potential of some developing country trade partners also played a role, as did import policies in some industrialized countries. With regard to the regional breakdown of foreign trade flows, most of the countries concerned have clearly indicated their wish to increase mutual economic ties by above-average rates of growth of intra-area trade. Large complex programmes of mutual technical and economic co-operation, as well as numerous detailed multilateral agreements have been concluded within CMEA to assist in the implementation of this strategy.[232]

The year 1985 also saw increased activity by the east European countries and the Soviet Union in international *financial markets* (see section 4.3 below). On the one hand, the trade deficits which reappeared in some of the countries needed to be financed with new credits. On the other hand, virtually all the countries reviewed took up other, mostly syndicated, credits in order to increase assets, improve the maturity structure of their foreign debt or to provide further finance for investment good imports. Thus, the overall level of net foreign indebtedness of the seven countries rose in 1985—probably by about $8-9 billion. For eastern Europe, this largely reflected the depreciation of the US dollar, given the fact that the bulk of foreign debt in these countries is denominated in non-dollar currencies.

(v) Resources for domestic utilization

In recent years, most of the seven countries have displayed similar movements in the *formation and allocation of resources for domestic use* (NMP used). NMP used has tended to grow slower than NMP produced (thus reflecting increasing surpluses on balance of trade). The growth of consumption has generally outstripped the rise in accumulation. However, the growth rates of personal as against social consumption have diverged. Although most countries have not given full information about changes in the formation and allocation of NMP

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[232] For detailed information on recent activities aiming at closer and more effective mutual cooperation between the member countries, see *Survey of CMEA Activities between the 39th and 40th Meetings of the Session of the Council*, CMEA Secretariat, Moscow, 1985.

TABLE 3.1.9

Foreign trade of eastern Europe and the Soviet Union
(Annual percentage change and ratios in current dollars)

	Bulgaria	Czecho-slovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union	Eastern Europe and Soviet Union
Foreign trade turnover									
1981	7.2	−1.8	10.0	0.5	−20.3	−9.9	−3.1	5.2	0.8
1982	6.9	5.1	4.8	−1.0	−5.1	−16.8	−0.1	7.9	3.9
1983	6.3	5.7	8.1	−2.3	3.3	−3.5	4.1	4.2	4.2
1984	4.5	4.4	5.4	−3.3	1.0	2.6	3.2	−0.2	1.5
1985 [a]	2.2	−2.5	—*	−3.4	−2.4	9.7*	0.3	−4.9	−2.3
Exports									
1981	3.0	−0.1	14.7	1.4	−21.9	−1.9	−1.2	3.8	1.2
1982	7.0	4.9	9.5	1.5	6.0	−9.5	4.0	9.6	6.9
1983	6.1	5.5	9.4	−1.0	3.2	0.4	5.0	5.1	5.0
1984	5.8	4.3	4.4	−1.7	1.6	5.5	3.7	−0.2	1.6
1985 [a]	0.2	−2.1	0.1*	−5.9	−4.2	9.1*	−0.4	−9.8	−5.3
Imports									
1981	11.7	−3.4	5.8	−0.2	−18.8	−16.8	−4.8	6.8	0.3
1982	6.8	5.4	0.1	−3.2	−14.9	−24.2	−4.1	6.2	0.9
1983	6.5	5.9	6.6	−3.5	3.4	−8.9	3.1	3.3	3.2
1984	3.1	4.6	6.6	−5.0	0.5	−1.1	2.7	−0.1	1.3
1985 [a]	4.3	−3.0	0.2*	−0.7	−0.3	10.6*	1.0	0.8	0.9
Export/Import ratios									
1981	99.0	101.6	98.4	95.3	85.6	101.8	96.7	108.5	102.3
1982	99.1	101.2	107.7	99.9	109.5	121.6	105.9	112.0	109.0
1983	98.8	111.8	110.5	102.5	109.3	133.0	107.8	113.9	110.9
1984	101.3	100.4	108.3	106.0	110.5	141.9	108.7	113.9	111.3
1985 [a]	97.4	101.3	108.2*	100.4	106.1	139.9*	107.2	101.8	104.5

Source: National statistics, plan fulfilment reports and ECE secretariat estimates.

[a] January-September 1985 relative to same period of 1984.

TABLE 3.1.10

Foreign trade turnover of eastern Europe and the Soviet Union by selected regions
(Annual percentage change and current dollar terms)

	Bulgaria	Czecho-slovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union	Eastern Europe and Soviet Union
With developed market economies									
1981	8.7	−11.1	14.1	−4.7	−33.0	−10.2	−9.2	1.0	−4.0
1982	−10.4	−7.5	3.6	−6.6	−18.8	−29.1	−10.5	5.7	−1.9
1983	−7.4	−4.6	12.8	−0.8	−0.4	−6.2	−1.6	−0.6	−0.3
1984	−2.6	−1.3	5.9	0.3	5.9	13.6	4.4	−2.9	0.3
1985 [a]	4.5	−7.2	−1.6*	−1.9	3.5	−8.1*	−1.9	−12.5	−29.7
With developing economies									
1981	34.0	—	−11.3	−0.2	−27.5	5.0	−1.6	24.0	11.4
1982	12.9	−6.0	23.6	14.3	−14.1	−15.5	−2.8	1.7	−0.3
1983	−11.8	8.0	0.2	7.6	4.6	−10.1	−2.7	2.5	0.3
1984	17.7	3.6	−7.2	−12.8	0.6	8.2	1.9	−5.0	−2.2
1985 [a]	5.7	−12.3	1.0*	−27.3	−5.4	12.3*	−0.3	−11.9	−7.0
With European CMEA countries									
1981	3.7	1.1	10.3	4.2	−10.0	−19.3	−0.5	3.4	1.2
1982	10.0	9.9	3.9	−0.1	−30.3	−6.8	−1.3	11.1	4.2
1983	11.7	8.0	6.7	−5.3	5.1	3.4	6.2	7.5	6.8
1984	3.9	6.4	6.2	−3.3	−1.4	−7.8	3.0	2.5	2.7
1985 [a]	1.4	−0.9	0.8*	0.9	−5.1	21.3*	1.2	0.7	0.9

Source: As for table 3.1.5.

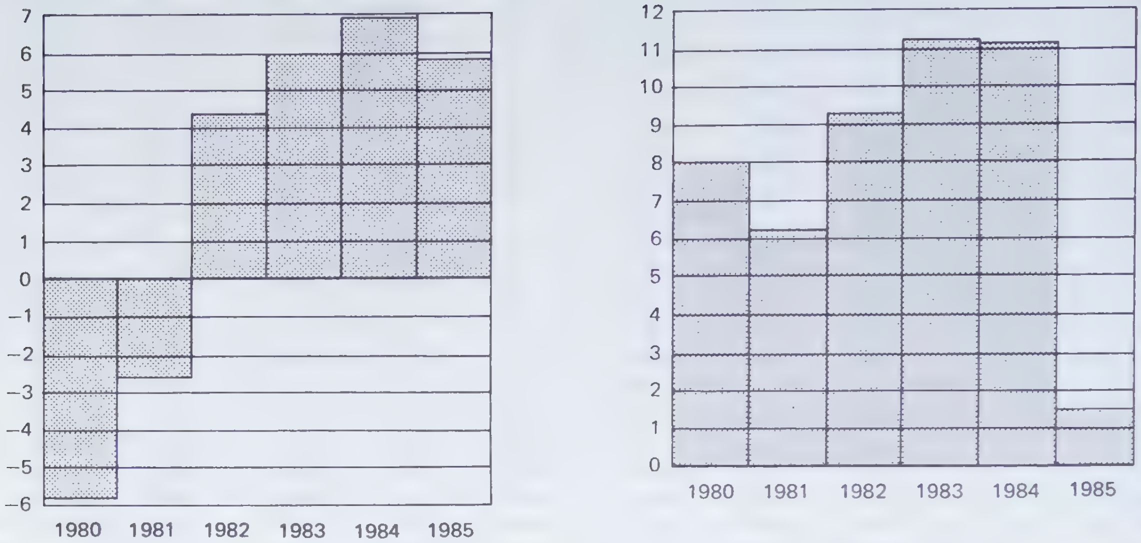
[a] January-September 1985 relative to same period of 1984.

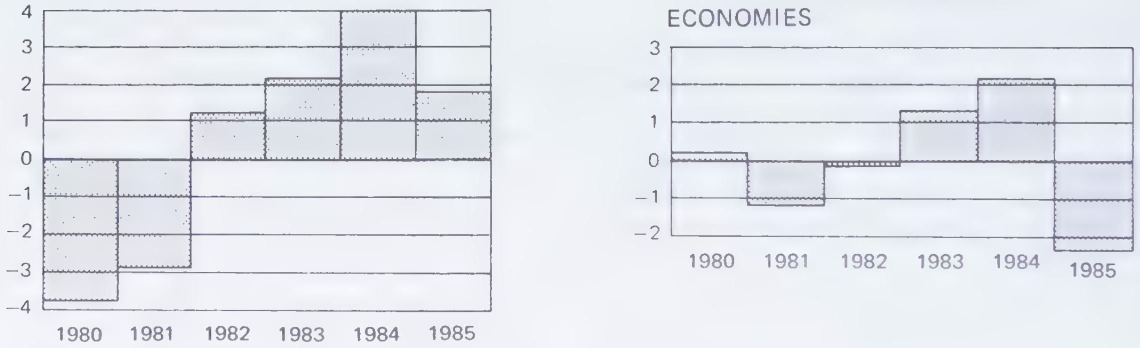
CHART 3.1.6

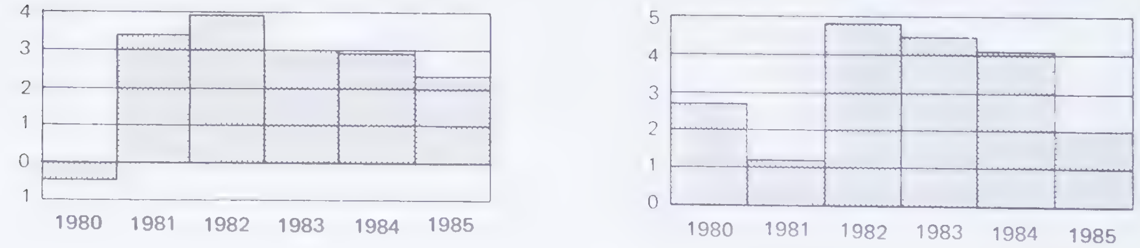
Foreign trade balances

(Billion US dollars)

EASTERN EUROPE **SOVIET UNION**


A. TOTAL A. TOTAL


B. WITH DEVELOPED MARKET ECONOMIES B. WITH DEVELOPED MARKET ECONOMIES


C. WITH DEVELOPING COUNTRIES C. WITH DEVELOPING COUNTRIES

Source: National statistics

TABLE 3.1.11

Foreign trade balances of eastern Europe and the Soviet Union by selected regions

(Billion US dollars or roubles)

	Eastern Europe	*Soviet Union*	*Eastern Europe and the Soviet Union*
Total			
(billion US dollars)			
1981	−2.6	6.2	3.6
1982	4.4	9.3	13.7
1983	6.0	11.2	17.1
1984	6.9	11.1	18.0
1985 [a]	5.8	1.5	7.2
With developed market economies			
(billion US dollars)			
1981	−2.9	−1.2	−4.1
1982	1.3	−0.1	1.2
1983	3.2	1.3	4.5
1984	4.0	2.2	6.2
1985 [a]	2.8	−2.3	0.5
With developing countries			
(billion US dollars)			
1981	3.4	1.2	4.6
1982	3.9	4.8	8.7
1983	3.0	4.5	7.5
1984	2.9	4.1	7.1
1985 [a]	2.3	2.0	4.3
With the Soviet Union			
(billion roubles)			
1981	−2.3	..	..
1982	−1.1	..	..
1983	−0.4	..	..
1984	−0.5	..	..
1985 [a]	−0.5	..	..

Source: As for table 3.1.9.

[a] Extrapolated, assuming continuation of January-September trends of exports and imports.

used in 1985, available data (table 3.1.12 and chart 3.1.7) indicate that a considerable change in this respect may be under way. A few of the underlying issues should be mentioned here.

First, the first two columns of 3.1.12 show that, in contrast to the previous moderate-to-large differences between the *growth rates of NMP produced and NMP used*, these rates converged in 1985 in all the countries reviewed. In most they were very close—irrespective of the direction of change in the growth of NMP produced. Furthermore, in some cases, preliminary figures show that the growth of NMP used may have risen above that of NMP produced. Even in Hungary, where NMP produced contracted in 1985, NMP used fell less. Changes in the relationship between increases in NMP produced and NMP used reflect above all the decline in balance of trade surpluses or their transformation into deficits. They could also be interpreted in terms of an increasing need for resources for domestic utilization, both on the consumption and investment sides.

Secondly, at the beginning of 1980s, when the growth of NMP produced decelerated, and growth rates of NMP used lagged behind those of NMP produced, *total consumption*—with only a few exceptions—tended to grow faster (or to contract less) than *accumulation*. This was especially the case in Poland. Given the fact that consumption is usually more resistant to downward changes than accumulation, this could have been expected. Similarly, when NMP growth rates began to accelerate in and after 1983, this relationship changed. Although there were variations in some countries in individual years, the growth of accumulation generally began to accelerate while that of consumption slowed down. This can be interpreted in terms of the larger share of resources which became available for domestic utilization, but larger-than-expected investment requirements also seem to have played a part. Indeed, as examined in more detail in the previous issue of this publication,[233] overall economic growth in some of the centrally planned economies of eastern Europe and the Soviet Union proved to be more investment-intensive than envisaged in the five-year plan strategies. Hence, higher gross investment and accumulation growth rates were needed—both to provide room for an acceleration in the pace of economic growth and in order to ensure genuine progress in re-orienting the economy towards a more intensive, resource-efficient path of economic development.[234] Judging by annual plans for 1986 and strategies contained in five-year plan guidelines and other announcements for the period 1986-1990, this tendency may become more pronounced in the coming years.

Finally, table 3.1.12 and chart 3.1.7 show that *private (personal) and social consumption* have grown at different rates in recent years in all countries but Hungary. Although only limited and preliminary information is available for 1985, two basic patterns emerge. In Bulgaria and Czechoslovakia, the traditional relationship between the growth of these two consumption components is apparent: social consumption has grown faster. In the German Democratic Republic, in contrast, there has been a tendency for private (personal) consumption to advance at a faster rate than social consumption. The regulation of personal (i.e., wage-related) consumption leaves open broader opportunities for stimulating efficient work than does the regulation of social consumption. The higher growth of the former in the German Democratic Republic may have been one of the factors explaining the faster rise in economic efficiency compared with the other six countries. The other countries fall between the two models mentioned. The Soviet Union, which had previously followed the traditional model, may have been adjusting this policy recently—and could eventually move towards more balanced growth of the two forms of consumption. In Poland, the relationship between annual changes in the two components has varied, and no clear-cut tendency is discernible in recent years. In Hungary, as already indicated, the two consumption components rose at roughtly the same rates.

(vi) Underlying strategies for the period 1986-1990

Only Hungary passed the final version of its five-year plan for 1986-1990 (The Act on the Seventh Five-Year Plan) before the period covered by the plan had begun—as was the case with its plan for 1981-1985. Romania presented its "Draft guidelines for economic and social development targets under the 1986-1990 plan and until the year 2000" as early as November 1984. The Soviet Union issued "Draft basic guidelines of economic

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[233] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 97-99.

[234] Recently the same argument was developed by a Soviet economist B. Plyshevski. The author first points out that the share of accumulation in Soviet NMP used fell from some 28 per cent in 1966-1970 to 27.7 per cent in 1971-1975, 26.2 per cent in 1976-1980 and to 25.5 per cent in 1981-1984. Commenting on the causes and consequences of such changes, he finally concludes: "The lowering of the share of accumulation in the material sphere (*proizvostvennogo nakopleniya*), if it goes beyond economically-based limits, gives rise to a contradiction with regard to solution of the tasks of intensification". (P. Plyshevski, "Nakoplenie i intensifikatsia" (Accumulation and Intensification), *Ekonomicheskaya gazeta*, No. 3, January 1986, p. 2.)

TABLE 3.1.12

NMP produced and NMP domestically used

(Annual percentage change)

Country and period	*NMP produced (1)*	*NMP used*[a] *(2)*	*Consumption*			*Accumulation*		
			Total (3)	*Personal*[b] *(4)*	*Social*[c] *(5)*	*Total (6)*	*Net fixed capital formation (7)*	*Changes in stocks (8)*
Bulgaria								
1976-1980	6.1	2.8	4.0	4.1	4.9	0.1	2.4	5.3
1981	5.0	7.7	5.3	5.0	5.5	14.8	..	..
1982	4.2	1.9	3.7	3.6	6.5	−3.3	..	..
1983	3.0	1.2	2.9	2.5	2.5	−3.6	..	..
1984	4.6	5.2	4.9	4.6	5.0	6.2	..	..
1985	1.8	2 *	3 *	..	..	−1 *	..	..
Czechoslovakia								
1976-1980	3.7	2.2	2.5	1.7	4.8	1.4	0.9	1.4
1981	−0.1	−3.4	2.6	1.7	4.9	−21.7	11.1	−83.5
1982	0.2	−1.6	−1.1	−2.3	1.8	−3.6	−27.3	234.7
1983	2.3	0.6	2.8	2.1	4.2	−8.0	−8.8	−5.5
1984	3.5	1.2	2.7	1.4	5.7	−5.8	20.8	−81.6
1985	3.1*	3 *	2.8*	1.8	5 *	4 *	..	..
German Dem. Rep.								
1976-1980	4.1	3.6	3.9	4.0	3.1	3.1	3.4	−6.7
1981	4.8	1.2	2.5	2.6	2.3	−3.7	..	..
1982	2.6	−3.3	1.2	1.9	0.6	−19.4	..	..
1983	4.6	0.5	0.6	0.6	−1.7	0.0	..	..
1984	5.5	2.5	4.3	4.3	3.4	−5.8	..	..
1985	4.8	4.5	4-5*	..	..	4-5*	..	..
Hungary								
1976-1980	2.8	1.7	3.0	2.6	5.9	−2.9	−1.8	−8.7
1981	2.5	0.7	3.0	3.0	3.0	−8.6	−15.5	37.6
1982	2.6	−1.1	1.4	1.4	1.3	−12.4	−15.7	1.4
1983	0.3	−2.8	0.6	0.5	0.7	−20.4	15.2	−142.9
1984	2.5	−0.6	0.9	0.9	1.2	−11.3	−9.2	8.2
1985	−1	−0.3	1 *	1-1.5*	0.5*	−1 *	..	..
Poland								
1976-1980	1.2	−0.2	4.5	4.3	5.3	−11.8	−9.2	−29.0
1981	−12.0	−10.5	−4.6	−4.1	−8.1	−27.6	−24.2	−69.5
1982	−5.5	−10.5	−11.5	−14.6	11.5	−6.6	−19.9	400.0
1983	6.0	5.6	5.8	6.2	3.1	4.9	9.5	−17.6
1984	5.6	5.0	4.4	3.8	8.3	7.3	12.3	−24.8
1985	3	3.5	2.5	..	..	6.5*	..	
Soviet Union								
1976-1980	4.3	3.8	4.7*	..	..	2.2		
1981	3.3	3.2	4.0	..	..	0.9	..	
1982	3.9	3.5	1.2	..	..	11.0	..	
1983	4.2	3.5	3.2	..	4.6	5[illegible]		
1984	3.2	2.6	3.9	..	3.5	−1[illegible]		
1985	3.5	3.1	3.2*	..		[illegible]		

Sources: National statistics and plan fulfilment reports.

[a] NMP used for net capital formation and [illegible]

[b] Volume of consumer goods supplied to the population

[c] Consumption of material goods in institutions providing amenities and social [illegible]

CHART 3.1.7

Allocation of net material product for domestic use

(Indices, 1980 = 100)

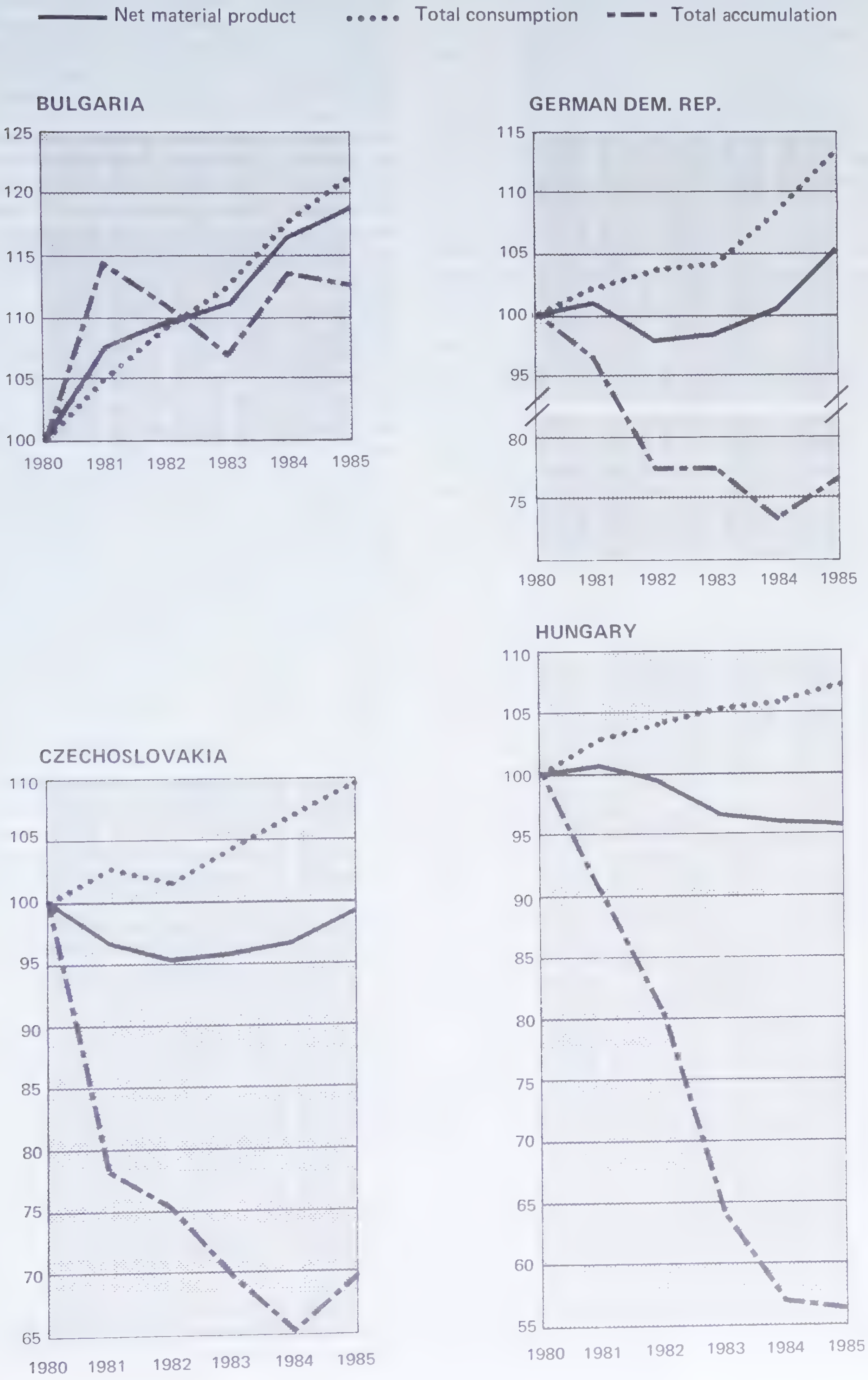
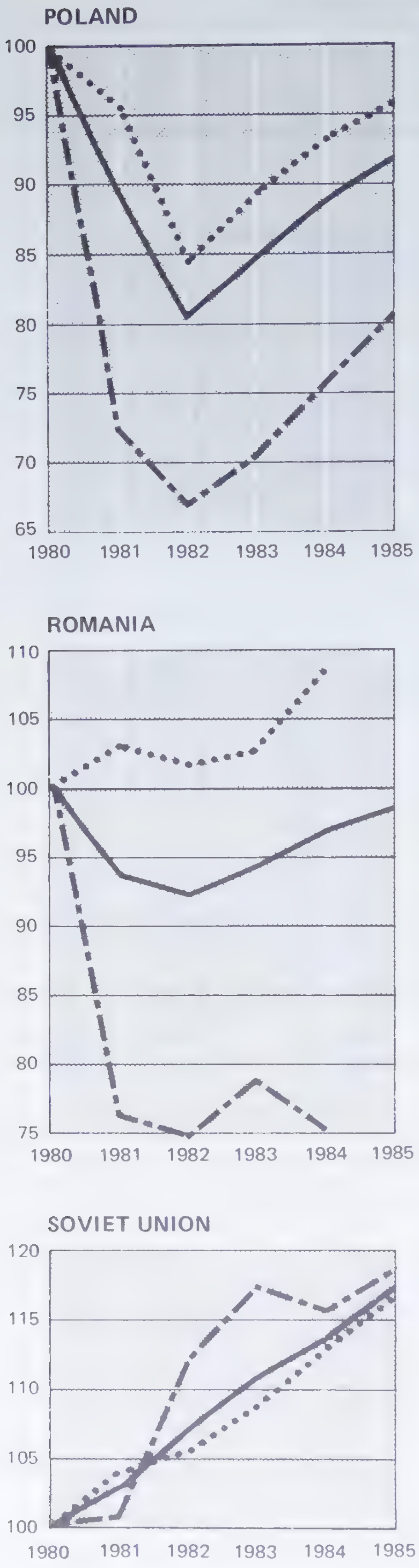


CHART 3.1.7 *(continued)*



Source: National statistics.

and social development of the USSR for 1986-1990 and the period up to 2000'' at the beginning of November 1985. A similar draft document (''Main guidelines for economic and social development of the CSSR for the period 1986-1990 and prospects for the period up to the year 2000'') was published in Czechoslovakia in January 1986. Bulgaria issued a draft document in mid-February of the same year. In Poland, draft five-year plan guidelines in three variants were issued in the spring of 1985. The variants were based on alternative average NMP produced growth rates of 3, 3.5 and 4 per cent annually, with corresponding variants for other elements. In August 1985, the *Sejm* (the national parliament) decided that the five-year plan for 1986-1990 should be based on the central variant, and the final version of the five-year plan was at an early stage of drafting at the time of writing. The German Democratic Republic thus far has presented its five-year plan intentions for the period 1986-1990 only in qualitative terms, together with a few tentative figures.

Taking into account the substantially different stages of preparation of the five-year plan documents and the uneven availability of information, no detailed analysis of the five-year plans strategies is possible at this time. Such an analysis will be offered in the next issue of the *Survey*. A tentative assessment of the underlying strategies for the period 1986-1990 can, however, be attempted. As a background, a synthetic but still also preliminary evaluation of developments in 1981-1985 will be used, based on the analysis presented in the foregoing subsections and in sections 3.2-3.6 below.

As already mentioned, the medium-term strategies incorporated in the five-year plans for 1981-1985 called for an orientation towards an intensive, i.e., more resource-efficient path of economic development. As shown in table 3.1.1 above and elsewhere in this chapter, such strategies in most cases involved slower growth than was actually achieved in 1976-1980. It was assumed that slower NMP growth rates, combined with various provisions to bring about a more efficient use of factor inputs, would provide room for the faster growth of final (i.e., net) output relative to gross output. This would have ensured rising living standards, while permitting a readjustment of foreign balances. Accordingly, investments were expected to grow slower than either output or consumption, and the emphasis was thus put—at least implicitly—on using existing production capacities more efficiently. This was to be facilitated by the removal of supply bottlenecks which had appeared in the previous period. Various sets of economic policy measures and modifications to management and planning systems were called for to make such strategies effective. The only country which clearly diverged from this general policy approach was the German Democratic Republic, where the average NMP growth target for 1981-1985 was planned at rates above those achieved in 1976-1980.

Data presented in previous subsections show that the strategy described above did yield certain results. Trade balances in all the countries concerned improved considerably, as did the overall balance of payments. In most countries, living standards were maintained or increased as a result of improvements in overall material intensity and labour productivity. Innovations were introduced into many aspects of the economies of the countries concerned. Despite this, an underlying note of dissatisfaction at the slow progress made in achieving a genuinely intensive economic development can be found in most policy documents of the countries concerned except the German Democratic Republic. Hence, all countries take pride in the positive aspects of developments in 1981-1985, but they also mention the deceleration of growth in the early 1980s, slower-than-expected labour productivity growth, falling capital productivity, excessive unit production costs, high levels of consumption of energy and many raw material inputs and the insufficient quality of products. While taking into account the unfavourable world economic situation, the deteriorating terms of trade, and the limited possibilities for further expanding factor inputs and supplies, etc., most policy statements concluded that the main source of the economic problems in recent years is the slow pace of innovation and technological progress.[235] In addition, some branches of the non-material sphere, such as health services, education and science, lagged behind expectations. This had an impact both on the standard of living of the population and on the innovation process in the material sphere itself.[236]

Against this background, it is not surprising that some re-thinking of development strategies has occurred in most east European countries and the Soviet Union. In fact, available documents indicate a continuing determination to achieve a transition to a genuinely resource-efficient path of economic development. Also, in most of the countries reviewed, there have been changes not only in the methods and approaches under discussion, but also in the understanding of the concept of intensification. The latest documents, and also the plan targets contained in them (table 3.1.13), suggest the following tentative summary of the main strategies for 1986-1990 and to the year 2000:

(1) An intensive, resource-efficient path of economic development does not in itself entail slower economic growth. Economies at a mature stage of development may not require, or be able to achieve, the high output growth rates needed at previous stages of development. However, the transition to an intensive, resource-efficient stage does require *relatively high average output growth rates*: only in that way can overall technical levels and production potentials be raised. Hence, all the east European countries which have published plans, as well as the Soviet Union, envisage considerably higher growth rates of NMP produced in 1986-1990 than those attained in 1981-1985. In fact, the growth rates of aggregate NMP produced planned by the six east European countries taken together amount to a target of 4.6 per cent annually in 1986-1990, compared with only 2.2 per cent recorded in 1981-1985. Growth rates of gross industrial output are similar, though lack of information for the German Democratic Republic prevents the calculation of an aggregate figure for eastern Europe as a whole at the present time. In the Soviet Union, NMP used for domestic consumption and utilization is expected to rise by an average of 3.5-4.1 per cent in 1986-1990, which is some way above the 3.2 per cent rate attained in the previous quinquennium. Although no figure for NMP produced is given in the Soviet five-year plan guidelines, targets retained for the main sectors of output confirm that NMP produced should certainly rise faster than NMP used, as in most years of Soviet post-war development.

(2) Relatively high output growth rates do not in themselves guarantee the transition to intensive development. If a real turnround in efficiency (as indicated by labour productivity, capital productivity, material intensity, and by the quality and variety of goods produced) is to be achieved, economic growth will also have to be accompanied by *far-reaching structural change*, as well as the *re-equipment of the productive apparatus*.[237] In most plan documents and collateral texts, the acceleration in economic growth is thus set within a framework of the broader requirements of raising overall efficiency by means of faster technical progress and changes in management and planning systems.[238]

(3) A specific precondition for faster technical and economic growth is a more balanced treatment of the material and the non-material spheres. In order to provide continuous innovation in the material sphere and a comprehensive improvement in living standards, most national five-year plans or five-year plan guidelines also envisage the *reconstruction and re-equipment of many sectors of the non-material sphere*—especially science and research. Incentives in all service sectors are to be improved, as are programme and organizational linkages be-

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[235] Explicit expressions of such views are contained in most of the documents listed at the beginning of this subsection, particularly in those of Czechoslovakia and the Soviet Union.

"... There has been a slowing down of the rates of development of the national economy. The work of intensifying production, reshaping the structure of production, and adjusting methods of administration and economic management has been inadequately carried out. New techniques and technologies were mastered in industry at insufficiently high rates. The technical level and quality of many items, including consumer goods, lagged behind present-day demands". ((Draft) *Guidelines for the Economic and Social Development of the USSR for 1986-1990 and for the period ending in 2000*, Novosti Press Agency Publishing House, Moscow, 1985, p. 11.)

"... Overall progress in the accelerated implementation of the results of science and technology in practice still does not correspond to the possibilities and needs of the national economy's effective development ... Despite the gradual improvement of the situation as regards putting capacities into operation, some important projects were not finished within the fixed deadlines, and there were delays in starting production at the projected parameters. The utilization of capital assets did not develop satisfactorily. Their effectiveness declined in the course of the five-year period (1981-1985) by 3.8 per cent a year." (*Rudé právo*, 11 January 1986, p. 1.)

[236] Among other things, this can be explained in part by the fact that non-material services are still understood as "non-productive". For more details about the non-material sphere, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 154-165.

[237] The utmost importance of the structural changes to be attained has been underlined in most comments on the five-year plan strategies. For the Soviet Union, for example, it was pointed out that:

"The transition of the economy to the lines of intensification requires serious structural changes and the implementation of an active structural policy. Several orientations may be singled out. It means first, an increase in the share of investment directed to the technical re-equipment and reconstruction of enterprises—up to 50 per cent in the XII (1986-1990) five-year plan. Secondly, the creation and large-scale implementation of resource-saving techniques and technologies. Thirdly, the reinforcement of priorities to develop of certain branches of the national economy and progressive production lines within particular branches. At the heart of contemporary structural policy lies a qualitative transformation of existing production potential". (M. Sidorov, "Effektivnost', tempy, struktura" (Effectiveness, Dynamics, Structure), *Ekonomicheskaya gazeta*, No. 2 January 1986, p. 2.)

Similar arguments can also be found in the explanation of the Polish economic options for 1986-1990. See, M. Gorywoda (Chairman of the Planning Commission of Poland): "Les dilemnes du développement", *Perspectives polonaises*, vol. 28, 1985, No. 4, pp. 9-18. However, the orientation towards larger structural changes has not so far been reflected in the Polish five-year plan documents, partly due to the huge investment needed to finalize uncompleted projects.

[238] The draft guidelines of the five-year plans of Czechoslovakia and the Soviet Union again give evidence of this orientation:

"The all-round intensification of the entire national economy [of Czechoslovakia] calls for the acceleration of scientific and technological progress on the basis of full participation in the CMEA comprehensive programme for scientific and technological progress up to the year 2000, the implementation of effective changes in the structure of production, improvements in the quality of management and planning, use of the economic mechanism, increased participation of working people in management, and the raising of their qualifications and initiative." (*Rudé právo*, 11 January, 1986, p. 1.)

"The main task of the 12th five-year plan [of the Soviet Union] is to increase the rate of efficiency of economic development on the basis of speeding up scientific and technical progress, retooling and rebuilding production, intensively using existing production potential and perfecting the management system and the economic mechanism and on this basis to achieve a further upsurge in the Soviet people's well-being." (*Pravda*, 9 November 1985, p. 2.)

TABLE 3.1.13

Selected indicators on five-year objectives, 1986-1990
(*Average annual percentage changes*)

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
NMP produced	4.1-4.6	3.4-3.5	4-5	2.8-3.2	3.2-3.5	7.6-8.3	..
NMP used	..	..	..	2.5-3.0	2.8-3.0	..	3.5-4.1
Gross industrial output	4.6-5.4	2.8-3.4	..	2.7-3.0	3.1	6-6.5	3.9-4.4
Gross agricultural output [a]	1.2-1.6	1.2-1.4*	..	1.4-1.9	2-2.1	5.4-5.8	2.7-3
Construction	..	1.9	..	2.2-2.8	..	..	..
Labour productivity	4.6-5.4	3.2-3.4	..	3*	3.7	..	3.7-4.2
Foreign trade turnover	..	4.1*[b]	..	..	3.4*	7.1-7.7	..
Gross investment	4.6-5.4	1.9-2.3	..	4.4-4.5	2.6-5 [c]	3.4-4.0	3.4-3.9
Real incomes per capita	2.3-2.8	2.1-2.5 [e]	..	1.7-2.1	1.6 [d]	..	2.5-2.8

Source: Draft guidelines five-year plans and other documents on developments in 1986-1990.

[a] Average annual percentage change as compared with average ouput in the previous five-year period.

[b] Foreign trade with the socialist countries.

[c] Net capital formation.

[d] Total consumption per capita.

[e] Real incomes of population.

tween service sectors, in particular science and research, and the material sectors, notably industry.

(4) Given the acceleration in overall economic growth, and the need for structural change and the re-equipment of existing plants, the underlying five-year plan strategies envisage much more buoyant *investment growth* than in the previous five-year period.[239] Tables 3.1.5 and 3.1.13 show that, in contrast to the generally falling investment levels in all east European countries but Bulgaria (and in eastern Europe as a whole) in 1981-1985, all the five reporting countries—Bulgaria, Czechoslovakia, Hungary, Poland and Romania—are anticipating considerably higher investment growth rates. In two countries, investment will in fact rise faster than output. In the Soviet Union, investment growth in 1981-1985 was the same as NMP growth, and a similar pattern is envisaged in 1986-1990.

(5) Taking into account the resources which will be needed for investment expansion, the allocation of the domestically utilized part of national output will probably continue with *faster growth of accumulation than of total domestic consumption*. In addition, though all the countries concerned clearly intend to improve their overall balance of payments situation, and also to reduce further their overall level of foreign indebtedness, several of the plan documents also mention possibilities for increasing investment potential by taking up foreign commercial and financial credits if the international situation permits.

(6) Further *increases in real incomes and in overall living standards* remain a high ranking objective of all the countries five-year plan strategies. The anticipated faster growth of accumulation or investment relative to total consumption is interpreted in many of the draft plans and explanatory documents not as an end in itself, but rather as an empirically proved precondition of a future rise in living standards. Nevertheless, further increases in incomes are clearly intended to be linked more closely with output and efficiency performance, at the national level as well as within productive associations and enterprises.

(7) In order to enable a real—also termed a "radical", "substantial" or "comprehensive" - turn towards an intensive and efficient path of economic development, most documents include provisions for *changes in management and planning systems* along with corresponding adjustment in *economic policies*. These range from appeals for "improvement" and "perfectioning" to changes in the forms and methods of central planning itself—notably by increasing the independence of associations and enterprises and leaving more room for initiative at the level of both enterprises and of the individual worker. They cover also various forms of "participation", "self-administration" and "self-management". For instance, in the Soviet Union, there has been a clear orientation towards the extension of methods of management and planning which have already been applied within the framework of large-scale experiments at industrial branch and even federal republic level, as well as within enterprises. These experiments include methods for testing the feasibility of still more fundamental changes in management and planning systems. Scholarly publications and other sources, including state and party newspapers, have recently carried on an unprecedentedly lively and critical discussion of many aspects of present management and planning practices. A new tone was also observed during the very recent deliberations of the XXVII congress of the CPSU. In the political report to the Congress it was stated that "a radical reform is needed" in economic management.[240] In Hungary, the process of economic reform has recently accelerated, although the overall model towards which the Hungarian economy is moving continues to be further elaborated. In Poland—where the term "economic reform" has been offically used to denote the changes in management and planning

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[239] Recently, a Czechoslovak economist presented a comparative analysis of developments in Austria, Japan and USA at the stage of their transition to an "intensive" path of economic development. The analysis indicates that in market economies this transition also requires a relatively high rate of economic expansion and, accordingly, large investments and high shares of accumulation in the allocation of resources for domestic use. See J. Klacek: "Relace mezi vyrobnémi faktory v procese intenzifikace" (Relationships between Factors of Production in the Process of Intensification), *Politická ekonomie*, 1985, No. 1, pp. 43-59.

[240] This was stated by Mr. M. S. Gorbachev, the CPSU Secretary-General, as follows: "The new economic tasks cannot be solved without an in-depth readjustment of the economic mechanism, without creating an integral, effective and flexible system of management that will take fuller advantage of the possibilities of socialism. It is obvious that economic management requires constant improvements. However, the situation today is such that we cannot limit ourselves to partial improvements, a radical reform is needed". (*Pravda*, 26 February 1986, p. 5.)

implemented since 1982—an orientation towards a further restructuring of economic management and planning was confirmed in June 1985. Nevertheless, the so-called "operational programmes" and special types of government contracts, which directly link government and enterprises and thus fall outside the scope of the mechanisms contained in the reform programme, still play a considerable role. Information on possible changes in management and related planning aspects in Bulgaria, Czechoslovakia and Romania is still scarce, and the German Democratic Republic has not given indications of any future modifications to its management and planning system.[241] In summary, broad ranging discussions are taking place in the centrally planned economies and a number of critical arguments and proposals for change have been tabled. Considerable modifications to the Hungarian, Polish and Soviet systems have been made. However, at the moment it seems that in 1986-1990 most of the countries in question will retain the fundamentals of their existing management and planning systems.

(8) Finally, the underlying five-year plan strategies of all countries reviewed include, in one form or another, plans for *increasing participation in the international division of labour.*[242] This means that foreign trade turnover will rise faster than national output. In particular, closer co-operation within the Council of Mutual Economic Assistance is considered desirable.[243] Most five-year plan documents also emphasize the willingness of the countries concerned to expand mutually advantageous co-operation with other groups of countries—that is, with the developing and the developed market economies. The acceleration envisaged in the pace of economic growth, the expansion of the range of goods to be produced and the renewal of productive plant in all countries of the area may well provide new opportunities for co-operation between the centrally planned economies and their trading partners.

Altogether, the underlying strategies contained in the five-year plans, draft guidelines and related documents open the way for accelerated, more balanced and also more efficient economic growth. However, given the mixed and to some extent disappointing performance of the previous five-year period, this outcome cannot be taken for granted. Overall developments in 1986-1990 will depend heavily on three complex and largely unforseeable factors:

— First, the overall international political climate and developments in the world economy will exert an influence. Both the east European countries and, to a lesser extent, the Soviet Union depend increasingly on international trade and payments. Past changes in the price of oil and its products, and also in the terms of trade as a whole, show the varying but substantial significance of changes in world market conditions for the seven countries under review;

— Second, climatic conditions influence the implementation of the five-year plans, as the agricultural sector in most of the seven countries is not fully industrialized and remains susceptible to the hazards of weather. High rates of dependence on imported energy in most east European countries, and also the influence of the weather on hydro-electricity production and overall energy demand, further underline the significance of climatic conditions;

— Third, further progress in adjusting management and planning systems to the requirements of intensive, i.e., resource-efficient economic development will be needed. This could be jeopardized by the tendency of some central planners and managers to rely on long-established, traditional methods of management, and to resist the changes in work methods required to face the challenges entailed by higher levels and new patterns of economic development.

(vii) Policy objectives and prospects for 1986

Short- and medium-term developments in eastern Europe and the Soviet Union have been analysed in detail in subsections (ii)-(v) above. The underlying development strategies indicated in the five-year plans, five-year plan guidelines and other documents were summarized in the subsection (vi). In addition, various detailed tasks envisaged in the 1986 annual plans for the main sectors contributing to the national output, and also investment and consumer incomes and supplies, are presented in sections 3.2-3.5. In this subsection, the basic objectives for 1986 will be summarized, together with a tentative assessment of development prospects in that year. Finally, basic information about recent developments in the Byelorussian SSR and the Ukrainian SSR are briefly reviewed.

(a) Basic policy objectives for 1986

The planning tasks presented in table 3.1.14 suggest the following summary of the main economic policy objectives.

National plans for 1986 clearly envisage an *acceleration in output growth rates.* In fact, only the German Democratic Republic foresees slightly slower growth in 1986, following the nearly 5 per cent expansion of NMP produced in 1985. All other east European countries envisage higher growth rates of NMP produced in 1986 than actually recorded in 1985. The rates range between 2.5 per cent in Hungary to an exceptionally high 10-12 per cent in Romania—almost three times higher than in any of the other six countries. The very high Romanian NMP target contributes to a combined NMP growth objective for the six east European countries of just over 5 per cent. This compares with 5.3 per cent in 1984 and 3.5 per cent in 1985. NMP used—the main planning aggregate in the Soviet Union—is envisaged to grow by 3.8 percent after the 2.6 and 3.1 per cent rates recorded in 1984 and 1985, respectively. Although no figure for the growth of NMP produced in 1986 was mentioned, gross industrial and gross agricultural output figures would indicate that Soviet NMP produced is expected to rise by more than 4 per cent. This is consistent with past relationships between the growth rates of NMP produced and NMP used.

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[241] In mid-February 1986, Mr. G. Husák, the President of the Czechoslovak Federal Socialist Republic, announced that Czechoslovakia may soon implement more extensive changes in management and planning, in the first instance following the Soviet experience. At the same time, it was reported that Mr. Husák made it clear that the country's own characteristics will be taken into account: "We are not looking for mechanical copying but for a creative use of the Soviet experiences." (*Rudé právo*, 17 February 1986, p. 2). This was also commented in the *Financial Times*, 18 February 1986, p.3.

[242] A clear statement of this nature is contained in Article 53 of the Hungarian five-year plan for 1986-1990:

"The economy is to adjust better to world market requirements and to intensify its participation in the international division of labour. To a greater extent than previously, the far-reaching qualititive and structural changes in the international economy are bound to have an effect on business organizations. Improved foreign trade relations and foreign market activity are to provide for steady and lively economic growth." (*Népszabadság*, 23 December 1985 (Supplement).)

[243] For more details on the relevant CMEA documents see: *Summit Economic Conference of the CMEA Member Countries*, Moscow, CMEA Secretariat, 1984: *Ekonomicheskaya gazeta* No. 52, December 1985; *Sotrudnichestvo stran-chlenov SEV v oblasti planovoi deyatel'nosti* (Co-operation of the CMEA-Member Countries in the Area of Planning Activities), Moscow, CMEA Secretariat, 1985.

TABLE 3.1.14

Selected indicators on annual plan for 1986

(Annual percentage change)

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Net material product	4.0	3.5	4.4	2.3-2.7	3.1-3.4	10-12	3.8 [a]
Gross industrial product .	4.5	2.6	3.8	2.0-2.5	3.2-3.6	8-9	4.3
Gross agricultural product	7.4	0.4	0.3	3.0-3.3	1.1-2.7*	6.5	4.4
Construction	3.2	3	3.2	1.0-1.5	3.5	..	..
Labour productivity	..	..	..	..	2.9-3.2	..	3.8
Foreign trade turnover ...	5	3 [b]	5.0	..	3.1-3.9	12-15	4.9
Gross investment	5.8	0.8	1.8	—	4.2	6.8	7.6
Real incomes per capita ..	2	2.2 [c]	..	1.0-1.5	..	1.3	2.5

Source: National plans.

[a] NMP used for domestic consumption and accumulation.

[b] With socialist countries.

[c] Real incomes of population.

Aggregate NMP produced of the seven centrally planned economies taken together, as implied by their respective weighted plan targets for 1986, thus amounts to about 4.5 per cent — compared with 3.2 per cent recorded in 1985.

The acceleration in the growth of NMP produced envisaged for 1986 can be interpreted in two ways. In the first place, NMP growth rates in 1985 were below expectations and it can be assumed that some part of the increases planned for 1986 reflects higher capacity utilization rates. Second, most national plans emphasize that special efforts will be undertaken to prevent output in the first year of a five-year plan period from lagging behind the five-year plan objectives — a frequent phenomenon in the past. Performance in recent years suggests that the Soviet 1986 target for NMP used is within reach. But it is also possible that eastern Europe's combined target for NMP produced — a rise of over 5 per cent—may be over-ambitious, judging by the average 4.2 per cent annual rate of expansion in the three previous years. Though the rates planned for NMP in most individual east European countries appear practicable, they will not be easy to achieve.

Planned NMP growth rates are similar to those envisaged for industry and agriculture—the two main output sectors. Soviet *gross industrial production* is planned to increase by 4.4 per cent in 1986, as compared with 4 per cent in 1985. The target for eastern Europe as a whole is 4.3 per cent, as compared with 3.9 per cent achieved in 1985. In individual east European countries, planned industrial output growth rates range between 2.5 per cent in Czechoslovakia and Hungary, and, once again, a rather high 8-9 per cent in Romania. The comments made above on the likelihood of the NMP objectives being met also apply to the industry targets.

The biggest output changes in 1986 are envisaged for *agriculture*. In the Soviet Union, gross agricultural output in 1986 is planned to rise by 4.4 per cent. Since Soviet agricultural production stagnated in both 1984 and 1985, this growth rate appears within reach. As in previous years, however, its attainment will largely depend on the weather, which has been unfavourable in five out of the last seven years. The 1 per cent fall in gross agricultural production in 1985 registered by eastern Europe as a whole explains in part the expectations for a 3 per cent aggregate growth rate in 1986. In fact, agricultural performance in most eastern European countries has improved in recent years, which also makes this target attainable—given reasonable weather. The 1986 gross agricultural output targets for individual east European countries vary considerably, ranging between less than 0.5 per cent in the German Democratic Republic and Czechoslovakia to 7.5 per cent in Bulgaria. The attainment of the Bulgarian target would still leave the level of agricultural output in 1986 no higher than in 1984, since there was a contraction of 7 per cent in 1985.

On the absorption side, scanty figures on foreign trade targets suggest that in most of the countries under review foreign trade is planned to expand at rates similar to national output. No detailed figures on the *allocation of resources for domestic utilization* have been published. The rise in total gross investment in eastern Europe is expected to lag slightly behind output expansion. However, this does not mean that total domestic consumption will outstrip accumulation: targets for *per capita* real income growth are lower than the investment growth target in several countries. A strong investment expansion is envisaged in Bulgaria and Romania (6 and 7 per cent respectively). However, the highest investment growth target in 1986 is contained in the Soviet annual plan, where it is almost twice as high as that for NMP used. This indicates that action required to ensure structural change and to raise efficiency is being undertaken as early as the first year of the new five-year period. As mentioned, total domestic consumption is planned to grow more slowly than national output and, probably, accumulation in most countries reviewed. Real incomes *per capita* are nevertheless planned to increase further in all the countries concerned—and projected growth rates are especially high in the German Democratic Republic and the Soviet Union.

(b) Short-term prospects

If the explanations for the lower than expected output growth in 1985 are correct, there appears to be sufficient slack in capacity in the centrally planned economies of eastern Europe and the Soviet Union to enable their economic growth to accelerate in 1986. This is indeed the intention revealed in the annual plans for that year. However, recent experience shows that such an acceleration cannot be taken for granted, given various factors which can have mixed effects on overall performance. Some of them are especially significant and should be examined separately.

First, as stated already, most east European economies are sensitive to climatic conditions. These affect first of all the crop production sector of agricultural output, but also livestock production and ultimately the output of industrial branches dependent on agricultural inputs. Climatic conditions can also have a considerable impact on energy production and consumption and thus on foreign trade performance, given the dependence of most east European countries on imported energy. They are important for Soviet agricultural performance, as well, and can have smaller but still significant effects on energy production, particularly on oil and coal output. Hence, significant improvements in the pace of economic growth would be attainable under "normal" climatic conditions only—and these are by no means guaranteed.[244]

Second, some of the favourable developments in 1983-1984 were achieved by adjusting imports rather exports, by the imposition of increasingly severe energy and raw material saving measures, and by repeated calls to raise efficiency backed by partial modification of existing management and planning mechanisms. However, developments in 1985 show that such measures cannot bring about continuous efficiency gains. Their effects are generally short-term—i.e., they tend to be effective only for one to two years. The further long-term acceleration of economic growth under such conditions can only be achieved by accelerating new investment, promoting essential structural change and by introducing new technologies. All of these require time, and are thus not likely to take full effect in 1986.

Finally, it should not be forgotten that at the end of 1985 and at the beginning of 1986—i.e. *after* the annual plans for the year were passed—considerable changes occurred in the world market price of oil and oil products (see sections 1.1, 2.1, 3.6 and 4.1). The effects of these changes cannot be assessed with precision for all centrally planned economies, nor will they have the same incidence in all cases. But three likely effects can be singled out. On the one hand, changes in gas and oil and oil product prices will affect Soviet hard currency earnings, as they already did in 1985. Changes in the world market for refined oil products will also certainly influence the convertible currency earnings of those east European countries which have exported considerable quantities of oil products. On the other hand, the changes in oil prices are expected to encourage economic expansion in the developed market economies. This would, in turn, increase their demand for imports, and thus offer export opportunities for Soviet and east European exports other than oil. Nevertheless, the latest changes in oil and raw material prices introduce a further element of uncertainty, which could affect not only the short-term development prospects of eastern Europe and the Soviet Union, but also their plans for the medium term.

The above discussion can be summarized as follows. There are fairly good prospects for some acceleration in overall output and efficiency developments in eastern Europe and the Soviet Union. Given the unforseeable, and possibly adverse, effects of climatic conditions, and latest developments in international markets, the overall rate of expansion in 1986 could be about 3 1/2 per cent (in terms of NMP produced) in eastern Europe as a whole, and somewhat more (in terms of NMP used) in the Soviet Union.

(c) Recent developments in Byelorussian SSR and Ukrainian SSR

Given the rather condensed nature of the analysis in this section, economic development in the Byelorussian SSR and the Ukrainian SSR have not been presented separately. Since they are member countries of the Economic Commission for Europe, recent and medium-term developments in these two Soviet republics are highlighted in more detail in the following paragraphs (see also table 3.1.15).

In the *Byelorussian SSR*, NMP produced increased by 5 per cent in 1985. The same growth rate was also recorded in 1984, and was preceded by a 7 per cent growth rate in 1983.[245] Thus the last three years have witnessed very good economic performance, NMP produced having grown by an average annual rate of 5.7 per cent in 1983-1985 and 4.8 per cent in 1981-1985. The latter is not only well above the Soviet average, but also exceeds the NMP growth targeted in the Byelorussian five-year plan. The medium-term pace of economic development was shaped first of all by a strong expansion of gross industrial producton—by an average 5.3 per cent per year. This also exceeded the five-year plan target. The growth rate of gross agricultural production fluctuated widely, ranging from a fall of more than 4 per cent to a rise of almost 13 per cent. Nevertheless, gross agricultural output in 1981-1985 rose at an annual rate of nearly 5 per cent as compared with average production in the year 1976-1980. This was considerably more than expected. National sources stated that the potential of the Republic is not yet fully utilized, especially in agriculture, where the existing material, technical and financial resources do not always yield appropriate returns.[246] The annual plan foresees a 4.4 per cent growth rate for NMP produced and gross industrial production in 1986, and about half that rate for gross agricultrual production. Virtually the whole of NMP growth is expected to originate in higher labour productivity, which would create room for real incomes to rise by 2.6 per cent and gross investment by 4.5 per cent. The plan stresses the need for faster structural change and for improvements in overall efficiency.[247]

In the *Ukrainian SSR*, NMP produced increased by some 3 per cent in 1985, as compared with a 3.6 per cent annual plan target.[248] Below-plan performance reflected in the first place disappointing agricultural production. It was expected to expand by more than 6 per cent but in fact fell by 2 per cent. Even so, the average level of gross agricultural production in 1981-1985 was over 12 per cent higher than in 1976-1980 (compared with the corresponding increase of nearly 6 per cent for the Soviet Union as a whole). This was also somewhat more than envisaged by the five-year plan of the Republic. Industrial expansion during the same period was on average 3.5 per cent, somewhat below the five-year target. However, the 3.9 per cent average annual rate of expansion of NMP produced was above the the five-year plan targets. The national plan for 1986 anticipates a 3.6 per cent increase NMP produced and for industry.[249]

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[244] In fact, recurrent energy shortages were already reported in the autumn of 1985 by Romania, which has introduced a system of emergency management of the branches concerned. Special measures were introduced to save energy, and to give priority to critical industrial sectors (*Scinteia*, 22 November 1985).

Persistent energy shortages were also reported in Bulgaria, which also took special measures to achieve energy savings (*Rabotnichesko delo*, 20 January 1986, p. 4). In addition, the very severe winter of 1985 appears to have been repeated in 1986. One report states that: "Production has been crippled in factories, coal mines and power stations as severe cold and blizzards battered Bulgaria, whose economy has not yet recovered from the disruption of last year's harsh winter." *Financial Times*, 7 February 1986, p. 3.

[245] A detailed report of developments of the Byelorussian SSR in 1985 was published in *Sel'skaya gazeta*, 29 January 1986.

[246] *Zvyazda*, 30 November 1985.

[247] For detailed information on the annual plan of the Byelorussian SSR, see the presentation of the plan by Mr. B. A. Makeichenko, Chairman of the State Planning Committee of the Republic, *Sovietskaya Belorusia*, 30 November 1985, pp. 2-3.

[248] The report on annual developments in 1985 in the Ukrainian SSR was published in *Rabochaya gazeta*, 29 January, 1986.

[249] For more details about the annual plan, see *Pravda Ukrainy*, 5 December 1985.

TABLE 3.1.15

Net material product and sectoral gross output in the Byelorussian SSR and the Ukrainian SSR
(Annual percentage change)

			Gross output			
	Net material product		*Agriculture* [a]		*Industry*	
	Plan	*Actual*	*Plan*	*Actual*	*Plan*	*Actual*
Byelorussian SSR						
1976-1980	6.0	5.2	2.3	1.5	7.4	7.2
1981-1985	4.3	4.8	2.1	4.8	5.1	5.3
1981	3.9	5.0	18.9	12.9	4.1	5.0
1982	4.2	2.2	9.3	−4.2	4.3	4.7
1983	3.8	7.0	12.0	11.0	3.4	5.0
1984	3.9	5.0	3.4	6.7	4.1	5.6
1985	3.8	5.0	3.5	−1.4	4.1	6.2
1986	4.4	..	2.1	..	4.4	..
Ukrainian SSR						
1976-1980	4.9	3.4	2.5	1.6	5.9	3.9
1981-1985	3.6	3.5	2.3	2.4	4.2	3.5
1981	3.8	2.7	16.9	0.8	3.5	2.8
1982	3.6	3.5	..	6.9	4.0	2.9
1983	3.0	4.0	10.2	2.6	2.8	4.4
1984	3.4	4.3	1.8	3.7	3.1	4.0
1985	3.6	2.9	6.3	−2.0	3.1	3.2
1986	3.6	..	..	..	3.4	..

Source: National statistics, plans and plan fulfilment reports for 1985.

[a] For five-year periods, average annual percentage changes are calculated on the basis of annual averages relative to the annual averages for the previous five-year period.

Within the Soviet Union, the Ukrainian SSR has often been referred to as an exceptionally successful example in implementing energy and raw material- saving technologies and in the recycling of secondary raw materials. This approach seems indeed to have contributed to a real turnround in the overall material intensity of output growth (GMP/NMP ratio) in the Republic: in contrast to the increasing material intensity of output which occurred in 1970-1980, and the 1.7 per cent envisaged contraction for 1981-1985, overall material intensity was actually reduced by 3.5 per cent in 1981-1984 alone.[250] This brought about additional increments in NMP produced and labour productivity.[251] Even so, the annual report on economic and social developments in the Ukraine for 1985 stated that some enterprises and associations, and even some branches and ministries, do not utilize their full economic potential. The annual plan for 1986 therefore calls for a more efficient use of all factor inputs. The planned high expansion of state investments (by almost 8 per cent) in 1986 should play a central role in promoting structural change and the retooling of enterprises.[252]

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[250] *Izvestia*, 15 October 1985, p. 2.

[251] This was pointed out by Mr. S. Gurenko, Deputy Prime Minister of the Ukrainian SSR, *Pravda*, 29 October 1985, p. 2.

[252] *Pravda Ukrainy*, 5 December 1985, p. 1.

3.2 AGRICULTURE

This section reviews recent production performance, factor inputs and efficiency as well as current policy orientations and prospects in the agricultural sectors of the east European countries and the Soviet Union. After the record output levels attained in 1983 and 1984, gross agricultural output in eastern Europe contracted by 1 per cent in 1985. In most of the countries concerned, output lagged behind the planned target for the year particularly in Bulgaria and the Soviet Union. In all countries but the German Democratic Republic, output also fell short of the five-year plan objectives. Subsection (i) reviews agricultural output growth in recent years within the context of the 1981-1985 five-year plans; subsection (ii) examines trends in arable output; subsection (iii) summarizes changes in the output of livestock products; subsection (iv) analyses changes in agricultural inputs and efficiency; subsections (v) and (vi) deal with the policy measures and targets for 1986 and up to the year 1990 and beyond.

(i) Growth of total agricultural output, 1981-1985

Gross agricultural output in *Eastern Europe* decreased by 0.9 per cent in *1985*. This compares with an increment of 6.7 per cent in 1984, when a record production level was attained (tables 3.2.1 and Appendix table B.13). In *Bulgaria*, output contracted for the second successive year. In *Czechoslovakia*, following three consecutive years of strong expansion, output in 1985 fell by 1.6 per cent—slightly more than the small decline envisaged in the annual plan. The *German Democratic Republic* was the only east European country where the production target was achieved and indeed overfulfilled: agricultural output increased by 3 per cent.

In *Hungary*, production fell by 6 per cent in 1985. Although only the second decline recorded in the 1980s, it was bigger than in any other year since 1970. In *Poland*, strong expansion in 1984 was followed by a smaller rise in 1985. In *Romania*, output in the latter year did not rise above the record level of 1984, and lagged well behind the annual plan target.

In the *Soviet Union*, two bad years (1981 and 1984) and two good years (1982 and 1983), were followed by improved grain production in 1985, but total gross agricultural output remained unchanged. The ambitious total output growth target of 6.7 per cent was not achieved.

In eastern Europe as a whole, agricultural output in 1981-1985 rose more slowly than implied by the combined five-year plan targets. It also increased by less than in the previous five-year plan period (table 3.2.1). Aggregate agricultural performance in the seven countries was held back by big fluctuations in crop production (chart 3.2.1). In some countries bad weather was responsible. For instance, in 1985, the extremely cold and prolonged winter was followed by severe drought in the summer. This prevented the attainment of planned production targets in Bulgaria and Romania, and caused severe crop damage in Hungary. However, it did not affect the other countries under review. Livestock output developed in a more stable manner than crop output, since countries were able to make good domestic shortfalls in fodder supplies by imports of grain and soya.

Slow overall growth in agricultural output in 1981-1985 forced some east European countries (Bulgaria in particular) to cut their traditional exports of foodstuffs, as well as to expand imports of grain and fodder. Certain net importing countries—the German Democratic Republic, Poland, and to some extent also Czechoslovakia, though not the Soviet Union—have begun to stabilize or even reduce their feed imports, though they are still considerably higher than in the early 1970s in all countries in question.

Overall agricultural output growth in the countries under review is still hampered by shortcomings in the agricultural infrastructure. Bottlenecks in transport, refrigeration plant, drying facilities and storage capacities, and—especially at harvest time—shortage of labour, lead to substantial losses every year.[253]

(ii) Crop production

For eastern Europe and the Soviet Union as a whole, 1985 was not a good crop production year. In *Bulgaria* unfavourable weather conditions—a cold, prolonged winter and drought in the summer—held back performance and prevented a repeat of the previous year's record grain harvest of 9.3 million tons. In fact, 1985 was the second year of sharply declining crop production during the 1981-1985 plan period. Output of all main crops fell (tables 3.2.1 and 3.2.2). The country was forced to import grain for domestic consumption. Nevertheless, thanks to two very good years, crop output in 1981-1984 averaged nearly a fifth above the 1980 level and, on an average yearly basis, it was also substantially above 1976-1980.[254]

In *Czechoslovakia*, crop production declined by 3.5 per cent in 1985. Nevertheless, production of grain was quite good, reaching 11.8 million tons compared with the plan target of 11 million, and over 1 million tons of maize was harvested. This almost equalled the record of 12 million tons in 1984. During the last two years, near self-sufficiency in grain production was achieved. Current grain production has thus attained the long-term target level (though this has revealed shortages of storage facilities). However, production of potatoes, vegetables, fruits and grapes were all lower than expected in 1985.

For the *German Democratic Republic*, 1985 was a second consecutive good year. The grain harvest of 11.6 million tons was slightly higher than in 1984, with an average yield of

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[253] In the Soviet Union for example, because of the lack of good roads throughout the country, production losses amount to about 5 billion roubles every year. Even in the German Democratic Republic the losses over 5-7 years due to inadequate rural roads exceeds the total amount of investment needed for their improvement and the construction of new ones. (*Agrarnye otnoshenia v stranakh sotsializma* (Agrarian relations in socialist countries), Moscow 1984, p. 134.)

[254] *Rabotnichesko delo*, 26 March 1985.

TABLE 3.2.1

Gross agricultural production
(Annual percentage change)

Country	*1976-1980*	*1981-1985 Plan*	*1981-1985 Actual*	*1981*	*1982*	*1983*	*1984*	*1985 Plan*	*1985 Actual*	*1986 Plan*	*1986-1990 Plan*
Bulgaria											
Total	2.1	3.4	..	5.9	5.2	−7.2	7.0	3.2	−11.1	7.4	6-8
Crop	0.7	..	..	10.2	7.9	−17.4	14.4	..	−21.6	..	..
Animal	4.0	..	..	2.2	2.6	3.0	1.1	..	−1.5	..	..
Czechoslovakia											
Total	1.5	1.4-1.9	1.8	−2.5	4.4	4.2	4.4	−1.1	−1.6	0.4	1.2-1.4
Crop	1.3	..	..	−5.3	13.8	2.8	6.1	..	−3.5	..	1.6-1.7
Animal	2.1	..	..	−0.5	−2.0	5.4	3.2	..	−0.2	..	1.0-1.2
German Dem. Rep.											
Total	1.2	0.7-0.9[a]	1.6	1.6	−4.0	4.1	6.2	0.8[a]	3.0	0.3[a]	..
Crop	0.1	..	..	1.9	2.0	1.2	14.0*	−4.0*	1.4*	..	..
Animal	2.0	..	..	1.5	−7.4	6.0	6.0*	..	..	..	..
Hungary											
Total	2.9	2.3-2.8	2.2	2.0	7.3	−2.7	2.9	1.0	−6.0	3.0-3.5	1.4-1.9
Crop	1.8	3.0-3.4	..	1.6	9.4	−7.5	4.9	2.0	..	..	..
Animal	4.1	1.6-2.3	..	2.4	5.3	2.2	1.0	–	..	..	..
Poland											
Total	0.6	..	−0.5	3.8	−2.8	3.3	5.7	(−0.8-1.4)	0.9	1.1-2.8*	1.97-2.13
Crop	−0.3	..	..	18.9	−2.5	5.9	7.4	(−0.5-3.5)	−2.2	0.3	1.76-2.93
Animal	1.7	..	..	−8.9	−3.2	0.4	3.7	2.4-3.6	4.6	2.4	2.11
Romania											
Total	4.8	4.5-5.0	2.0	−0.9	7.6	−1.6	13.3	6.0-6.8	0.1	6-7	5.4-5.8
Crop	3.8	..	..	0.6	12.8	−5.2	20.3	..	..	..	..
Animal	6.3	..	..	−2.8	0.2	3.7	4.4	..	..	..	..
Eastern Europe											
Total	1.9	2.9	1.1	1.8	1.6	0.9	6.7	1.4	−0.9	3.0	..
Crop	0.9	..	..	6.7	5.0	−1.0	9.8	..	..	..	..
Animal	3.0	..	..	−2.9	−1.5	3.0	3.3	..	..	..	..
Soviet Union											
Total	1.7	2.5	1.1	−1.0	5.5	6.1	−0.1	6.7	–	4.4	2.7-3.0
Crop	1.9	2.6	..	−2.4	9.2	6.0	−1.9	..	..	..	..
Animal	1.6	2.6	..	0.1	2.6	6.3	1.4	..	..	..	..
Byelorussian SSR											
Total	1.5	2.1	..	12.9	−4.2	11.0	6.7	..	−1.4	2.1	..
Crop	1.1	..	..	33.1	−15.5	18.7	7.4	..	..	..	..
Animal	1.8	..	..	−0.1	5.3	6.8	6.1	..	..	..	..
Ukrainian SSR											
Total	1.6	2.3	..	0.8	6.9	2.6	3.7	6.3	−2.0	..	..
Crop	1.4	..	..	1.8	17.7	−2.8	5.8	..	..	..	..
Animal	1.7	..	..	−0.1	1.3	7.6	1.9	..	..	..	..
Eastern Europe and the Soviet Union											
Total	1.7	2.6	1.1	−0.1	4.2	4.4	2.1	4.9	−0.3	3.9	..
Crop	1.4	..	..	0.5	7.8	3.7	1.8	..	..	..	..
Animal	2.1	..	..	−1.0	1.1	5.1	2.0	..	.	..	..

Sources: *Statisticheskii ezhegodnik stran-chlenov SEV 1985* (CMEA Statistical Yearbook 1985) Moscow, 1985, p. 182; Narodnoe khoziaistvo SSSR v 1984 (USSR Statistical Yearbook 1984) Moscow, 1985, pp. 229, 230; national plans and plan fulfilment reports.

[a] Including services and food processing industry

46 qu/ha. Improved harvests of potatoes, sugar-beet, oilseeds, vegetables and fruits were also obtained.

In *Hungary*, weather damaged the main crops in 1985 and the good grain harvest of the previous year was not repeated. Grain output of 14.8 million tons was about 6 per cent below production in 1984. Wheat production increased and the plan for wheat exports (about 2 million tons) was fulfilled. Nevertheless, convertible currency earnings from agricultural exports were significantly less than planned.

In *Poland*, the main targets for 1985 crop production were attained despite difficult weather conditions. The severe winter did not cause major crop losses. Winterkill amounted to only 1-1.5 per cent for grain and 12-15 per cent for rape—below the average for 1976-1980. Some 23.7 million tons of grain were harvested—2.7 per cent less than in 1984—with an average yield of 28.9 qu/ha. Oilseed (mainly rape) production reached record levels and was substantially higher than in 1984. Decreases in the main non-grain crops as compared to 1984 ranged between 3 and 10 per cent.

Over two thirds of the arable land in *Romania* is currently devoted to grain. Despite the hard winter and the summer drought, grain output in 1985 reportedly amounted to 23.1 million tons, 2.3 per cent less than in 1984.[255]

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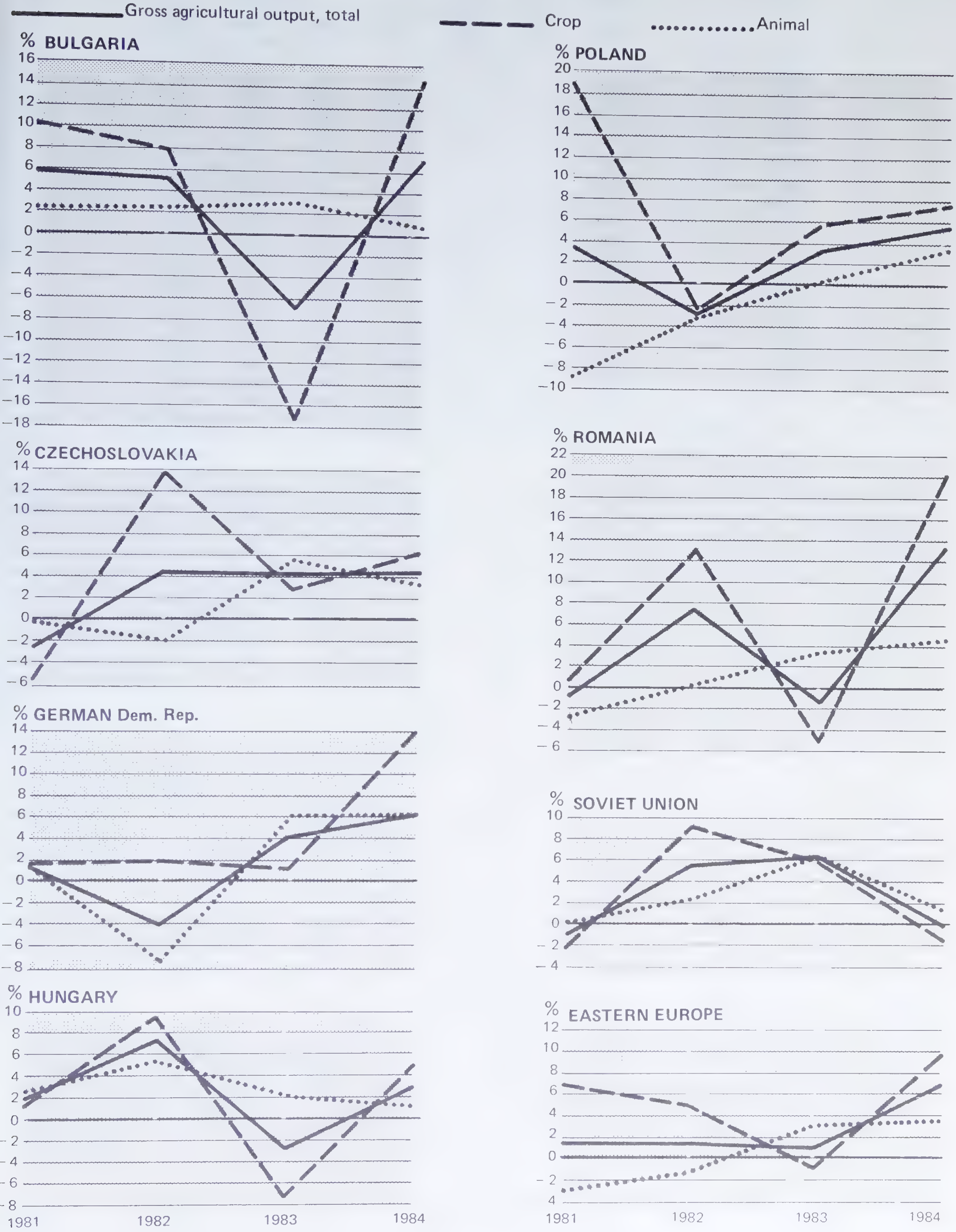
[255] *Scinteia*, 7 February 1986.

CHART 3.2.1

Gross agricultural output, total, crop and animal

(Annual percentage change)



Source: National statistics.

TABLE 3.2.2

Crop and grain production and grain yields
(*Annual percentage change*)

	Bulgaria	Czecho-slovakia	German Democratic Republic	Hungary	Poland	Romania	Soviet Union
Crop production							
1980	0.8	1.0	–	2.1	−0.2	3.8	1.9
1981	10.2	−5.3	1.9	1.6	18.9	0.6	−2.4
1982	7.9	13.8	2.0	9.4	−2.5	12.8	9.2
1983	−17.4	2.8	1.2	−7.5	5.9	−5.2	6.0
1984	14.4	6.1	14.0*	4.9	7.6	20.3	−1.9
Grain production							
1980	1.3	1.6	0.8	2.1	−1.5	5.4	2.5
1981	10.8	−12.2	−7.8	−8.0	7.5	−1.1	−15.4
1982	17.9	9.3	13.1	15.7	7.3	12.3	11.9*
1983	−20.5	7.9	0.4	−7.6	4.7	−12.9	11.7*
1984	16.8	8.5	12.7	14.3	10.4	20.2	−15.0*
1985	..	−1.5	2.2	−5.7	−2.7	−2.3	11.8*
Grain yield per hectare							
1980	1.3	1.6	−0.2	3.5	−0.5	4.5	1.7
1981	9.1	−11.5	−6.4	−5.1	6.9	−3.2	−14.8
1982	14.7	10.4	11.6	12.5	4.9	20.0*	11.8
1983	−20.6	9.4	0.5	−8.3	3.9	−14.0*	12.0
1984	21.2	8.2	13.6	14.5	9.3	20.1	−10.0*

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 200-201 and 206-207, national statistics and plan fulfilment reports.

Crop production in the *Soviet Union* fluctuates widely from year to year because of changeable and relatively hard climatic conditions. In spite of a number of measures to stabilize crop production, arable output fell by 2.4 per cent in 1981. This was followed by two successful years in 1982 and 1983, when arable output rose at fast rates. In 1984, crop production again declined by 1.9 per cent (table 3.2.2). Prelimary estimates suggest no increase in 1985, but grain output reached about 190 million tons, or about 12 per cent more than in 1984.[256] Nevertheless, the key problem remains how to increase and stabilize grain production. The area of irrigated land sown to grain has increased since 1980. Yields can be over twice as high as the average for all grains but there are cost and physical limits to expansion of the irrigated area. It has been reported that crop yields from reclaimed land are, moreover, sometimes extremely low, due to insufficient fertilizer use and the lack of suitable plant varieties.[257]

Non-grain crops increased at uneven rates in all countries concerned and their level fell in some of them in certain of the years 1981-1984 (table 3.2.3).

(iii) Livestock and livestock output

Livestock and livestock production increased in 1981-1984 in a majority of the seven countries and by most in Hungary, Romania and the Soviet Union (table 3.2.4). Available information on the development of the livestock sector also indicates some improvement in output and supplies of livestock products in 1985 (the exceptions being Hungary, and to some extent Bulgaria and Czechoslovakia). In *Bulgaria*, despite the severe winter and poor harvest, herds were largely maintained in 1985. The number of cattle, sheep and poultry decreased but the number of pigs increased by 4.8 per cent. Milk production fell marginally, but egg production rose by 3.1 per cent.

In *Czechoslovakia*, some changes took place in the structure of herds following a decline in pig and poultry numbers in 1985. Nevertheless, the 1981-1985 plan for production of milk, eggs and meat was fulfilled. There was a significant rise over the 1976-1980 level in average milk yields—particularly over the last three years when they rose by 100-150 litres per cow. This was in line with policy to raise milk production on the basis of higher yields rather than by increasing the milking herd.

In the *German Democratic Republic*, state procurement plans for livestock products were all overfulfilled in 1985. High levels of feed production during the last two years have provided a basis for maintaining current herd sizes and livestock product output.

In *Hungary*, livestock numbers reportedly declined in 1985: cattle by 7 per cent, pigs by 10 per cent and sheep by 13 per cent. Milk and egg production was also lower than in 1984. The main reason was the falling profitability of animal husbandry, due to higher costs which were not offset by higher state procurements prices. Irregular supplies of good quality feed, and difficulties in purchasing rough fodder, were also reported.

Livestock output, and milk production in particular, is falling because reductions in the number of cattle have not been accompanied by corresponding increases in their productivity. In order to arrest the decline in the cattle stock, farms were given tax relief in May 1985. Lower milk production has not greatly affected domestic consumption, but has reduced production of cheese and powdered milk for export. Nevertheless, exports of live animals and meat (8 per cent of Hungary's *total* exports) and of livestock products as a whole have risen. Meat alone constitutes half of all agricultural exports and 20 per cent of the country's convertible currency earnings. At present, no other Hungarian product can replace meat in the latter respect.

In *Poland*, the total herd size is reported to have increased by 10.2 per cent in 1985 compared with 1984, but the number of cows decreased. Meat production increased by 9.0 per cent,

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[256] UN document AGRI/R.179/Add.1 and ECE secretariat estimates.

[257] *Pravda*, 27 October 1984.

TABLE 3.2.3

Production of non-grain crops
(*Annual percentage change*)

Country and period	*Potatoes*	*Sugar-beet*	*Oil-seeds*	*Raw cotton*	*Vegetables*	*Fruit*
Bulgaria						
1976-1980 [a]	−1.1	−4.2	−0.7	−8.8	3.6	−0.9
1981	33.9	−19.7	15.4	8.5	5.0	15.4
1982	16.4	4.1	11.4	58.3	0.6	−0.7
1983	−0.9	−52.9	−14.4	−15.4	−15.8	−6.2
1984	−2.1	51.9	−0.7	−14.7	19.3	6.7
Czechoslovakia						
1976-1980 [a]	−5.4	−1.2	11.2	..	−2.6	4.6
1981	38.9	−0.4	−4.0	..	5.4	−42.6
1982	−3.6	17.5	−6.2	..	15.5	135.0
1983	12.0	−26.2	61.7	..	−11.2	−2.0
1984	25.2	24.3	−1.4	..	16.3	−15.1
German Democratic Republic						
1976-1980 [a]	3.7	2.4	−3.0	..	8.4	4.2
1981	12.6	5.1	−7.7	..	14.3	−17.7
1982	−14.4	−10.5	8.9	..	−7.3	58.6
1983	−20.5	−14.7	−15.1	..	6.8	7.3
1984	68.6	25.6	18.1	..	10.3	−20.4
Hungary						
1976-1980 [a]	−3.1	−0.7	20.6	..	4.1	3.3
1981	15.5	19.7	24.5	..	−11.3	−5.2
1982	−9.3	13.8	−3.6	..	2.5	23.2
1983	−15.4	−29.3	2.4	..	−8.1	−10.7
1984	25.7	15.3	2.8	..	13.0	−10.2
Poland						
1976-1980	−10.7	−7.8	−4.7	..	−1.7	2.5
1981	61.3	56.5	−13.4	..	32.2	11.3
1982	−24.9	−4.9	−12.1	..	−17.4	107.1
1983	7.9	8.7	35.1	..	3.9	−10.1
1984	8.6	−1.9	64.7	..	16.3	−9.8
Romania						
1976-1980	8.7	2.6	5.5	..	7.3	3.6
1981	7.5	−21.8	−14.8	..	12.5	13.7
1982	12.6	22.2	6.6	..	20.9	36.4
1983	24.0	−27.5	−16.6	..	−5.0	−12.4*
1984	2.9	45.6	34.3	..	33.6	3.3
Soviet Union						
1976-1980	−5.4	4.1	−2.0	4.8	3.1	0.6
1981	7.6	−24.9	−0.1	−3.3	−0.6	17.6
1982	8.5	17.3	15.4	−3.7	10.5	6.5
1983	6.2	14.6	−4.5	−0.7	−3.1	0.1
1984	3.1	4.2	−12.2	−6.4	7.0	0.8

Sources: *Statisticheskii ezhegodnik stran-chlenov SEV 1985* (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 200-205; national statistics.

[a] Annual average.

TABLE 3.2.4

Livestock and livestock output
(*Annual percentage change*)

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Livestock [a]					[b]		
1976-1980	2.3	1.4	1.2	1.4	−0.7	2.9	1.2
1981	0.6	−1.5	0.9	1.4	−1.9	2.8	1.0
1982	0.4	—	−3.3	3.7	−4.4	−5.5	1.7
1983	0.1	2.7	−0.6	2.0	−9.6	9.7	2.0
1984	−2.2	−1.3	1.1	3.6	2.4	2.7	0.4
Meat production							
1976-1980	3.5	2.1	0.7	2.0	0.5	5.2	0.1
1981	1.7	1.8	5.2	0.8	−19.6	1.0	0.8
1982	1.6	−7.4	−8.1	7.2	2.1	..	1.1
1983	3.6	5.2	2.1	5.8	−3.1	..	6.5
1984	1.3	3.7	6.1	3.2	0.7	..	3.3

TABLE 3.2.4 *(continued)*

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Milk production							
1976-1980	4.2	1.4	−0.4	6.9	0.1	3.6	–
1981	3.6	0.1	−1.4	5.3	−7.0	−7.9	−2.2
1982	5.5	2.2	−5.2	2.3	−0.3	−5.8	2.4
1983	4.4	9.5	6.5	2.6	5.3	10.2	6.0
1984	2.4	4.1	5.4	−0.3	4.0	6.4	1.5
Eggs							
1976-1980	5.8	1.7	1.8	1.8	2.1	5.3	3.2
1981	−0.4	1.4	2.8	0.2	−1.0	3.5	4.2
1982	2.4	1.2	0.5	−0.8	−13.4	2.1	2.5
1983	6.4	4.0	2.7	1.9	7.4	5.1	3.7
1984	2.5	5.2	−1.2	−2.6	7.3	7.0	2.1

Source: Statisticheskii ezhogednik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 211-213, 218-220; national statistics.

[a] Conventional units, end of year.

[b] Excluding goats and horses.

milk decreased by 1 per cent and eggs rose by 1.7 per cent compared with 1984. This has made it possible to increase exports of meat and meat products—traditional Polish export items—and to ease to some extent the country's balance-of-trade problems.

In the *Soviet Union*, the productive livestock population decreased slightly in 1985. Nevertheless, thanks to rises in productivity per animal, the output of livestock products increased marginally. State procurement plans for livestock and poultry, milk, eggs and wool were all overfulfilled. Meat production continues to be the area where output increases are being pushed most.

(iv) Agricultural inputs and efficiency

(a) Land

During 1981-1985, the *arable area* increased only in Romania. No country in eastern Europe has significant possibilities for expanding its agriculture land area. Even in the Soviet Union, possibilities for bringing new land into cultivation are limited by the huge investments that would be needed. The arable land area has in fact declined slightly in the past 20 years. It has been found necessary to discourage pressure to convert land to non-agricultural uses by legislation in some countries.[258] The area sown to grain in the seven countries was relatively stable in 1981-1984. It rose slightly in Bulgaria and Poland, decreased in the Soviet Union and Czechoslovakia and remained almost constant with some small year-to-year variations in the German Democratic Republic and Hungary (table 3.2.5).

Agricultural land use policy also stresses the need to raise yields on existing areas, to improve its quality by drainage or irrigation and, where possible, to reclaim other poor quality land. Improved land of all types varies between 10-25 per cent of all total arable area in the seven countries under review. In *Bulgaria* more than 25 per cent of the arable land is irrigated. In the near future, the area of irrigated maize is planned to reach 450,000 ha, irrigated soya beans 80-90,000 ha, and irrigated lucerne 150-160,000 ha. The development of a further 400,000 ha of irrigated land using the water of the Danube is also to be carried out.[259] In *Czechoslovakia*, the main stress is on land drainage. No data are available on the total area of drained land, but about 50,000 ha (1 per cent of the arable area) were newly drained in 1984. In the *German Democratic Republic*, the irrigated area was increased in 1985 by about 165,000 ha, making a total of some 1.1 million ha—about 23 per cent of arable land. In *Hungary*, 5 per cent of arable land is irrigated. In *Poland*, irrigated and drained land now accounts for 25.5 per cent of the total arable area. In *Romania*, the corresponding figure for irrigated land is 30.2 per cent. Following the adoption of a national programme for land improvement in 1983, a further 2.5 million ha are to be irrigated and drained, and improvements carried out on a further 2 million ha.

In the *Soviet Union* over 60 per cent of arable land is in low rainfall areas which are also susceptible to drought. Large irrigated farming areas have been created in the Volga region, the North Caucasus, the southern Ukraine and Moldavia, as well as in the Central Asian republics, the Transcaucasus and Kazakhstan. In 1985, as specified in the Soviet Food Programme, some 1.4 million ha of irrigated and drained land was brought under cultivation. The total area of irrigated land is now about 17 million ha (nearly 8 per cent of the arable land area).

A considerable proportion of arable land in the northern areas of the Soviet Union suffers from excess moisture—the non-black earth zone of the RSFSR, Siberia and the Far East, Byelorussia and the Baltic Republics. Over the past 15 years, important investments have been made to drain and improve land in these areas. In total, some 6-7 per cent of Soviet arable land has been drained.

All cotton and rice, 75 per cent of vegetables, about 50 per cent of fruits and grapes and about 40 per cent of corn maize were produced on irrigated or drained land.[260]

(b) Employment and labour productivity

For many years agricultural employment has decreased continuously in the seven countries together, providing a reserve for the "extensive" development of industry and other non-agricultural sectors. With the exception of *Bulgaria*, where it continued to decline, agricultural employment in all other countries since 1980 has remained largely stable or even increased (table 3.2.6 and chart 3.2.2).

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[258] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1980*, New York, 1981, p. 102.

[259] *Rabotnichesko delo*, 26 March 1985.

[260] *Pravda*, 24 October 1984.

TABLE 3.2.5

Arable land area
(*Annual percentage change*)

	Total						*of which: under grain*					
	1980/1975	*1981*	*1982*	*1983*	*1984*	*1985*	*1980/1975*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	–	0.9	0.2	−0.2	−0.4	..	−1.4	1.6	1.5	0.2	0.4	−9.3
Czechoslovakia	−0.4	–	–	−0.1	−0.2	..	−0.9	−1.8	−1.0	–	0.2	..
German Dem. Rep.	0.4	−0.4	−0.2	0.1	−0.1	..	−1.1	−1.6	1.3	0.9	−0.8	..
Hungary	−0.4	0.1	−0.2	–	0.1	..	−1.5	−3.5	3.2	0.7	0.2	..
Poland	−0.2	0.1	0.3	−0.1	–	..	−0.1	0.5	2.3	0.8	1.4	..
Romania	0.2	0.2	0.2	0.3	0.3	..	0.7	1.1	−6.5	0.9	3.7	..
Soviet Union	0.1	0.1	–	0.1	0.1	−1.2	−0.2	−0.8	−2.0	−1.8	−1.0	−0.2
Byelorussian SSR	0.2	–	–	–	−0.1	..	−3.8	−3.9	−2.3	−1.0	−3.0	..
Ukrainian SSR	0.1	–	–	–	−0.6	..	−0.1	1.2	−0.2	−7.7	−0.6	..

Source: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, p. 188; national statistics.

The decline was reversed after 1979 in the *German Democratic Republic, Czechoslovakia* in 1984, and *Romania* in 1982. In *Hungary*, small increases in the late 1970s and in the early 1980s were reversed in 1983 and 1984. In *Poland*, where the labour force declined rapidly in most years of the 1970s, it rose in the late 1970s but has declined again in 1981-1983. In the *Soviet Union*, the agricultural labour force declined by less than 1 per cent annually in the 1970s, and appears to have risen slightly after 1981 (table 3.2.6). During 1982-1984, 8 per cent fewer people left the countryside as a whole, while in the RSFSR the figure was 20 per cent and in the non-black soil zone 30 per cent.[261]

Agricultural employment in the east European countries and the Soviet Union has not yet declined to levels characteristic of highly advanced countries with an efficient agriculture. Its share of the total active population is still high.[262] Its recent near-stabilization is thus likely to be temporary. However, the apparently large size of the farm labour force can be deceptive: the outflow from agriculture has consisted mainly of young able-bodied men, while those who stayed consist disproportionately of workers in older age groups. This has also resulted in declines in fertility levels in rural areas. In some countries (notably Bulgaria, the German Democratic Republic), policies designed to resolve some of these imbalances have been introduced.[263]

In these circumstances, it is not surprising that increasing mechanization of production, faster labour productivity growth and lower material inputs per unit of output are central features of agricultural policy in all the countries reviewed. A precondition of success in this respect is the raising of the qualifications of the labour force. There are no systematic statistics in this respect, but the educational level and professional qualifications of agricultural workers seem to have improved along with the introduction of new industrial technologies and rising professional requirements. In Bulgaria, for instance, agriculture now employs 20,000 specialists with higher education and more than 2,400 scientific staff. In the German Democratic Republic, some 90 per cent of the people active in agriculture have completed training courses and about 9 per cent have had high school or vocational education.

Agricultural labour productivity in 1981-1984 showed a generally rising tendency in eastern Europe and the Soviet Union (table 3.2.6 and chart 3.2.2). *Capital intensity* increased in 1981-1984, usually faster than labour productivity growth, in Czechoslovakia, Romania, and the Soviet Union and in some years in Bulgaria, the German Democratic Republic and Poland (see table 3.2.6). Nevertheless, there is still a great deal of room for improving the efficiency of agricultural machinery and fixed asset use.

(c) *Agricultural investment*

Investment in eastern Europe and the Soviet Union fluctuates according to the socio-economic goals and priorities set in various countries. Between 1980 and 1985, agricultural investment increased at low rates and even declined in some countries—the exceptions being Czechoslovakia, Romania and the Soviet Union where it rose briskly and indeed much more than planned. The share of agriculture in total investment and in the material sphere totals remained stable in Bulgaria, increased in Czechoslovakia and to some extent in Romania in the period reviewed (tables 3.2.7 and 3.4.7). The share decreased in the other four countries—though not by much.

In all countries of eastern Europe and in the Soviet Union, agricultural investment was mainly oriented towards mechanization and the development of modern technologies. Land improvement also accounted for a big share in some countries (it reached 17 per cent in the Soviet Union in 1984). Compared with 1980, the *tractor park* (in physical units) continued to increase in the German Democratic Republic, Poland, Romania and the Soviet Union. In other east European countries it stagnated (Czechoslovakia and Hungary) or decreased (Bulgaria). Annual *deliveries of tractors* to agriculture rose in Czechoslovakia (where scrapping rates were, apparently, particularly high), in Poland, and the Soviet Union. In the other countries they stabilized. Total *tractor capacity* (in h.p. per ha of arable land), however, increased in all countries but Bulgaria—due to the increasing share of bigger tractors in total deliveries (table 3.2.8). The mechanization of basic field operations has already reached high levels. Within the constraint of slower-growing or

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[261] *Pravda*, 25 October 1984.

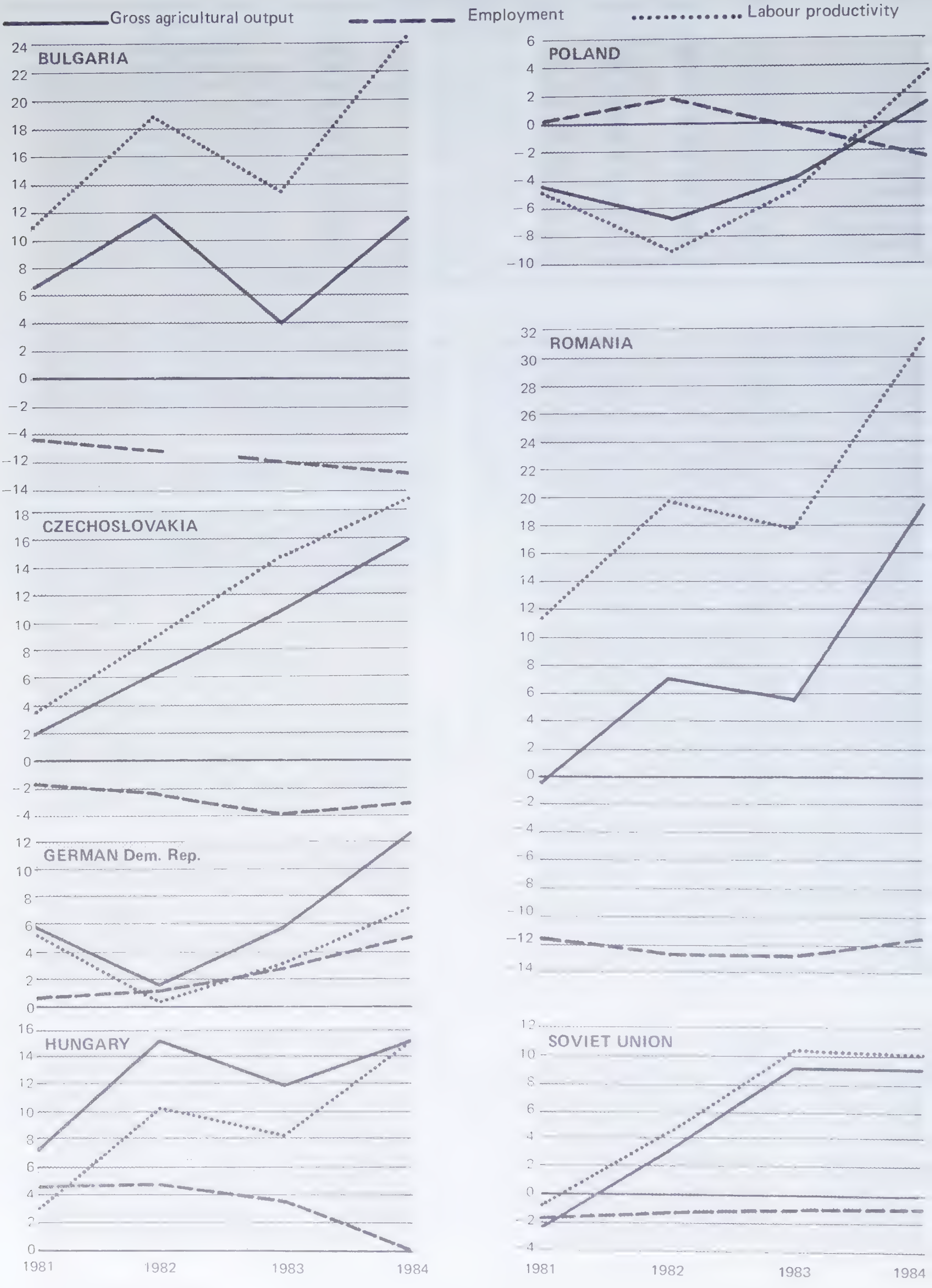
[262] According to national statistics, the share of the economically active population in agriculture in total active population in 1984 was 21 per cent in Bulgaria, 12.5 per cent in Czechoslovakia, 11 per cent in the German Democratic Republic, 21 per cent in Hungary, 29 per cent in Poland, 29 per cent in Romania (1983) and 20 per cent in the Soviet Union.

[263] In the German Democratic Republic, despite recent increases in agricultural employment, crop operations alone require an additional 30-40,000 workers. During the harvest period this rises to 100,000.—V.E. Aper'yan, *Sotsializm: naselenie i ekonomika* (Socialism: The Population and Economics), Moscow, Politizdat, 1983, pp. 134-135.

CHART 3.2.2

Gross agricultural output, employment and labour productivity in agriculture

(Indices, 1976-1980 = 100)



Source: National statistics.

TABLE 3.2.6

Employment, labour productivity and capital intensity
(Annual percentage change)

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Employment [a]							
1980/1975	−2.7	−1.4	−0.3	−0.5	0.5	−4.4	−0.8
1981	−1.5	–	0.4	4.4	1.1	−2.7	−0.5
1982	−2.8	−0.8	0.6	0.4	−0.5	−1.0	0.4
1983	−3.1	−1.4	1.5	−1.0	−2.2	0.3	0.2
1984	−3.2	0.9	2.3	−3.4	1.9	0.8	0.2
Labour productivity [b]							
1980/1975	3.7	3.4	3.8	2.9	−2.2	8.6	2.3
1981	7.5	−2.5	1.2	−2.3	2.9	1.8	−0.6
1982	8.2	5.2	−4.6	6.9	−2.3	8.7	5.1
1983	−4.2	5.7	2.6	−1.7	4.9	−1.9	5.8
1984	10.2	3.5	3.9	6.3	3.8	12.4	6.7
Capital intensity [c]							
1980/1975	8.3	8.1	5.5	6.0	6.2	12.4	8.2
1981	6.4	6.3	4.5	−0.1	3.1	11.8	7.2
1982	8.0	6.3	4.3	3.9	3.2	11.2	6.7
1983	8.5	7.3	3.3	4.4	4.2	9.6	5.7
1984	6.0	6.6	1.7	6.3	0.6	8.5	6.1

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 181, 395-404; national statistics.

[a] Annual average.

[b] Gross output per employee.

[c] Fixed assets per employee.

TABLE 3.2.7

Investment, fixed assets and capital productivity
(Annual percentage change)

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Investments							
1980/1975	1.3	0.7	−0.4	−0.5	−0.5	7.5	2.9
1981	−10.7	6.5	2.9	8.0	−12.7	10.4	2.4
1982	−18.6	5.2	−7.6	−1.0	−15.6	−2.2	1.1
1983	1.6	13.7	−9.3	−15.4	4.5	8.9	3.6
1984	2.6	1.5	−10.6	−9.7	4.0	9.3	6.9
Fixed assets							
1980/1975	5.4	6.6	5.2	5.5	6.7	7.5	7.3
1981	4.8	6.3	4.9	4.3	4.2	8.8	6.7
1982	5.0	5.4	4.9	4.3	2.7	10.1	7.1
1983	5.1	5.8	4.8	3.4	1.9	9.9	5.9
1984	2.6	5.6	4.0	2.7	2.5	9.4	6.3
Capital productivity [a]							
1980/1975	−4.3	−4.5	−3.9	−2.8	−7.9	−3.4	−5.3
1981	1.0	−8.3	−3.1	−2.2	−0.4	−8.9	−7.2
1982	0.1	−0.9	−8.5	2.9	−5.4	6.5	−1.5
1983	−11.7	−1.5	−0.7	−5.9	1.4	−10.5	0.3
1984	4.3	−1.1	2.1	0.2	3.1	3.6	−6.0

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 159, 162; national statistics.

[a] Gross agricultural output per unit of fixed assets.

declining agricultural investment levels in most countries in 1981-1985, the development of capital-intensive methods for the production of eggs, poultry, meat and pork has been promoted.

Long-term joint CMEA programmes for agriculture and the food industry have been announced to promote co-operation between the seven countries in developing agricultural machinery—though as shown in tables 4.5.2 and 4.5.3 below, agriculture currently accounts for a low share of the seven countries' mutual trade in investment goods. Nevertheless, agro-technical and other specifications for 1,035 types of machinery and equipment have been agreed upon to ensure a degree of equipment standardization.[264] The lines of specialization in this

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[264] *Co-operation of the CMEA countries in the field of agriculture*, Moscow, 1984, p. 21.

TABLE 3.2.8

Stock and deliveries of agricultural machinery

	Stock of tractors				*Deliveries to agriculture*	
	Physical units (Thousands)	*Motor HP (Mill.hp)*	*Agricultural land per tractor (ha)*	*Motor hp per 100 ha of arable land*	*of tractors (Thousands)*	*of grain combines (Thousands)*
Bulgaria						
1980	62.0	3.9	100	106	4.4	0.6
1981	60.5	3.9	102	105	3.8	1.1
1982	59.6	3.9	104	105	3.6	1.2
1983	58.3	3.9	106	106	3.1	1.1
1984	56.7	3.9	109	103	3.0	0.9
Czechoslovakia						
1980	136.7	6.6	50	100	6.3	1.4
1981	134.1	6.6	51	101	5.1	1.0
1982	132.3	6.6	52	102	6.5	1.2
1983	134.4	6.8	51	104	8.8	1.5
1984	135.6	6.8	50	104	9.2	1.7
German Democratic Republic						
1980	144.5	9.3	43	195	6.0	0.5
1981	147.0	9.8	43	207	6.3	0.5
1982	149.5	10.0	42	212	4.9	0.6
1983	153.4	10.3	41	218	5.4	0.9
1984	156.1	10.3	40	218	5.4	0.7
Hungary						
1980	55.5	3.0	219	64	4.5	1.1
1981	54.9	3.1	212	67	3.6	0.9
1982	55.3	3.3	202	70	4.4	1.3
1983	55.6	3.4	196	72	4.1	1.2
1984	55.4	3.4	191	73	3.8	1.0
Poland						
1980	649.0	30.4	29	208	59.9	4.5
1981	682.0	31.3	28	215	59.4	4.2
1982	738.0	31.6	26	217	60.5	4.4
1983	758.0	31.9	25	217	64.1	4.2
1984	806.0	32.0	23	220	63.1	4.0
Romania						
1980	146.6	9.4	102	95	15.3	4.6
1981	156.0	9.7	96	98	21.2	6.2
1982	169.0	10.9	89	111	. .	. .
1983	168.0	11.3	89	114	14.8	4.5
1984	174.0	11.6	86	117*	18.3	4.7
Soviet Union						
1980	2 562	191.5	216	85	347.6	117.5
1981	2 598	199.8	213	88	353.5	104.8
1982	2 649	209.0	210	92	350.0	110.4
1983	2 697	217.0	207	95	372.9	115.8
1984	2 755	223.0	202	98	381.7	115.5

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 225-226; national statistics.

trade, which involves, *inter alia*, deliveries by the six east European countries of 120,000 units of machinery and equipment to the Soviet Union, include equipment for mechanization of crop production and livestock breeding, machinery for hop harvesting and processing (Czechoslovakia), fodder harvesting technology (the German Democratic Republic), meal dryers (Poland), equipment for broiler factories (Hungary and the German Democratic Republic), laboratories for the quality-testing of grain, vegetables, fruit and fodder, and machinery to treat grain and to harvest green peas (Hungary), etc. For its part, the Soviet Union sells heavy tractors, various combine harvesters, land improvement technology, etc.[265]

(d) Fixed assets and capital productivity

Fixed assets grew substantially during 1981-1984 in the countries reviewed, though at decelerating rates in Hungary and Poland (table 3.2.7). In all seven countries, agriculture accounted for a fairly stable share of total fixed assets in the material sphere, ranging in 1984 between 13-14 per cent in Bulgaria, the German Democratic Republic and Romania, and 30 per cent in Poland.

Agricultural *capital productivity* levels have generally declined in all countries since the early 1980s (table 3.2.7)—and at rather faster rates than in the material sphere as a whole. In most of them, agriculture is still technologically backward relative to other sectors and a large share of investment is allocated to infrastructure—especially buildings for storage and other purposes—which has no immediate influence on output levels. High capital input growth has often been accompanied by insufficient supplies of specialized agricultural machinery to complement basic operations (mechanized bulk materials handling equipment is an important example), inadequate technologies and insufficient numbers of qualified specialists. The high level of fixed assets achieved as a result of the fast growth of capital inputs in the 1970s is still far from fully exploited. In this respect, agriculture appears to exhibit—but to a greater degree—problems encountered in the economy as a whole (section 3.8 below).

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[265] *Ibid.*, p. 23.

(e) Other inputs

Along with mechanization, *mineral fertilizers* have played an important role in raising yields and agricultural productivity.[266] Some countries are already close to the upper limits of use imposed by climate and soil, as well as by public health and environmental constraints.[267] In all countries there is now a need for more efficient use of fertilizers, for increases in nutrient content per ton, the development of granulated products, etc.[268]

(f) The livestock feed situation

Domestic fodder supplies fluctuate according to the annual variation of crop output and structure: demand changes over the longer term according to changes in the size and composition of herds. Between 1980 and 1984 the east European countries improved their fodder balances (table 3.2.9)—sometimes at the expense of livestock output (Poland) and sometimes by increasing imports (Soviet Union). Otherwise, the improvement appears more firmly based in Hungary which was a net grain exporter in all the above years, and, though to a smaller extent, in Bulgaria and Romania (which were net exporters in three and two years, respectively, of the period 1981-1985).[269] However, all the countries reviewed import substantial quantities of soya meal and sometimes whole soya beans to supplement the protein value of animal diets (table 3.2.10).

As noted, *Bulgaria* has been a net grain exporter in some years since 1981, though in progressively decreasing quantities. Its tonnage of soya-bean meal imports in 1984 was bigger than its net grain export. Because of the poor harvest in 1985, its feed import requirements increased. *Czechoslovakia* and the *German Democratic Republic* have progressively cut their grain imports by improving domestic feed output and quality. Both countries were also big importers of soya meal, on an increasing scale up to 1984. *Hungary* and *Poland*—the bigger east European grain importers—also rely on imports of soya for feed purposes. Poland's imports of soya fell back sharply after 1981, when it was the biggest importer of this commodity in eastern Europe, as the size of herds were reduced. A good feed grain harvest in 1985 should ease the fodder supply situation. Grain imports could fall in the short term, but further increase in herd size would tend to push them up further. Between 1981 and 1984, the *Soviet Union*'s grain imports increased massively from about 25 to 41 million tons. In terms of tonnage, Soviet grain and soya imports together in 1981-1984 were equivalent on average to about a quarter of all Soviet concentrate feed requirements—and to about 30 per cent in the latter year (table 3.2.10). Nevertheless, though the grain problem remains intractable, the 1985 plan for procurement of coarse and succulent feed was successfully fulfilled. The discrepancy between feed requirements and domestic fodder production, however, remains very large.

TABLE 3.2.9

Domestic fodder output [a]
(*Annual percentage change*)

	1976 [b] *1980*	*1981*	*1982*	*1983*	*1984*
Bulgaria	−2.0	6.6	21.3	−7.1	3.4
Czechoslovakia	0.6	−0.4	13.2	−10.2	11.5
German Democratic Republic	2.6	3.4	1.9	−7.0	12.4
Hungary	0.2	3.0	6.9	−13.7	8.5
Poland	−0.4	13.2	−8.3	−1.2	8.0
Romania............	3.4	6.2	17.4	−13.4	11.6
Soviet Union	5.6	−10.7	19.5	12.2	−6.0

Source: Statisticheskii ezhegednik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 200-205; national statistics. *FAO, Production Statistics*, Vol. 38.

[a] In feed units coarse grain and pulses: nutrients coefficient weighting = 1.0, fodder root crops = 0.2, and roughages = 0.4.

[b] Annual average.

(v) Policy objectives for 1986

The year 1986 is the starting point for implementing the strategies on which the 1986-1990 five-year plans are based. In all countries here reviewed the central objective is balanced, intensive growth of both crop and animal production.

For 1986 and up to the the end of the new five-year plan period, further increases in agricultural investment are planned in most of the countries concerned. They will be directed mainly to the reconstruction and renewal of existing facilities, to land improvement and to an extension of the agricultural infrastructure.

In *Bulgaria*, some improvement is expected in 1986 over the poor year of 1985: gross agricultural output is to increase by 7.4 per cent and grain production is planned at 9 million tons. In *Czechoslovakia*, the 1986 plan foresees a further small (0.4 per cent) increase in gross agricultural production over the already high level in 1985, and grain production is targeted at about 11 million tons. In the *German Democratic Republic*, the 1986 plan sets a grain production target of nearly 11 million tons (an increase of 1.9 per cent over 1985). Increases in the output of vegetables, fruit and fodder crops, and more intensive management of pasture land are also given high priority. In *Hungary*, gross agricultural production is expected to rise by 3.3 per cent.

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[266] Some CMEA experts pointed out that almost one half of increments in the yields of farm crops are achieved through fertilizers, *ibid.* p. 16.

[267] In 1984 eastern Europe and the Soviet Union utilized mineral fertilizers as follows: Bulgaria—238 kg/ha arable land; Czechoslovakia—340; the German Democratic Republic—317; Hungary—288; Poland—231; Romania—122 and the Soviet Union—103. *Statisticheskii ezhegodnik stran chlenov SEV 1985*, (CMEA Statistical yearbook) Moscow, 1985, p. 288.

[268] At the same time, the intensive use of more highly concentrated fertilizers in agriculture is sometimes counter-productive. It can destroy soil fertility and cause a number of negative side effects. See, for example, the report to the Central Committee of the Bulgarian Communist Party by V. Tsanov: *Za intensivno i ustoichivo razvitie na selskoto stopanstvo i khranitelnata promishlenost na osnovata na verkhovite postizhenya na nauchno-tekhnicheskiya progress* (For an intensive and stable development of agriculture and the food processing industry on the basis of high achievements of scientific and technological progress), *Rabotnichesko delo*, 26 March 1985.

[269] Since some countries feed substandard wheat to livestock, total grain (including bread grain) and soya are taken as the main indicators of livestock feed imports.

TABLE 3.2.10

Net imports of grain and soybeans
(Thousand tons)

Country	*Total grain*	*Wheat*	*Coarse grain*	*Soya bean*	*Soya cake and meal*
Bulgaria					
1980	32	−487	510	−5	184
1981	628	−259	887	20	230
1982	−625	−1 018	388	−2	161
1983	−375	−520	136	−1	228
1984	−287	−332	43	20	395
Czechoslovakia					
1980	1 853	536	1 317	37	674
1981	893	215	678	19	646
1982	997	−145	1 079	31	590
1983	609	122	517	31	499
1984	597	206	318	32	735
German Dem. Rep.					
1980	4 100	426	3 674	95	798
1981	3 005	722	2 283	30	906
1982	2 181	656*	1 493	18	982
1983	3 436	1 448*	1 820	18	1 319
1984	2 841	713*	2 088	26	1 185
Hungary					
1980	−797	−812	15	−0.1	618
1981	−1 285	−1 198	87	−2	598
1982	−1 621	−1 146	−464	−4	565
1983	−1 342	−1 107	−273	−3	836
1984	−1 426	−1 271	−210	−9	742
Poland					
1980	7 163	3 384	3 779	278	1 144
1981	6 826	3 448	3 378	108	1 148
1982	4 493	3 602	624	99	618
1983	3 279	2 364	808	192	319
1984	2 706	2 047	503	45	694
Romania					
1980	612	92	520	273	302
1981	975	800	125	81	588
1982	−357	−125	−279	252	130
1983	373	300	12	331	111
1984	−144	−50	−150	422	64
Eastern Europe					
1980	12 963	3 148	9 815	678	3 720
1981	10 992	3 728	7 438	256	4 116
1982	5 067	1 824	2 841	394	3 046
1983	5 980	2 607	3 020	568	3 312
1984	4 281	1 313	2 592	536	3 815
Soviet Union					
1980	25 530	13 430	10 100	1 085	346
1981	29 553	14 890	14 663	1 396	968
1982	37 877	19 267	16 849	1 506	1 550
1983	29 866	19 900	9 411	1 366	2 331
1984	41 079	25 100	15 603	615	600
Eastern Europe and the Soviet Union					
1980	38 493	16 578	19 915	1 763	4 076
1981	40 545	18 618	22 101	1 652	5 084
1982	42 955	21 082	19 692	1 900	4 596
1983	35 832	22 507	12 481	1 934	5 443
1984	45 356	26 413	18 183	1 151	4 415

Source: FAO, *Trade Yearbook*, vols. 36 and 38.

Note: A minus sign indicates net exports.

It was announced that price and income regulations will be modified in 1986; this should reverse recent declines in the profitability of agriculture and stimulate investment.

In *Poland*, the main priority in 1986 is improving the management of agriculture, raising labour productivity and cutting material and energy expenditures. Gross agricultural output is planned to increase by 1.1-2.8 per cent (crop production by 0.3 and livestock output by 2.4 per cent). In *Romania*, gross agricultural output in 1986 is planned to increase at a high rate of 6-7 per cent. Grain production of 31 million tons is expected, compared with 23 million in 1985. At the end of 1985, a special programme on self-management and self-sufficiency in agriculture was adopted to ensure adequate supplies of agricultural products (and industrial consumer goods) for consumers during the period 1 October 1985-20 September 1986.[270] The programme focuses attention on improving both crop and livestock production.

In the *Soviet Union*, the plan for agricultural development in 1986 has been set in accordance with the main targets of the Soviet Food Programme.[271] Gross agricultural output is to rise by 4.4 per cent (table 3.2.1). A considerable increase is envisaged in crop farming, particularly grain, sunflower seeds and sugar-beet. The area of intensive grain cultivation will be expanded from 17-31 million ha. Some 1.3 million ha of improved land is expected to be brought under cultivation.

(vi) Policy orientations and prospects for 1986-1990 and beyond

During 1985, all countries of eastern Europe and the Soviet Union outlined measures and draft outlines of five-year plan strategies for 1986-1990. These will mostly be finalized and adopted in the early months of 1986. Present documents are thus preliminary and may be amended before their final adoption. The information given below should thus be considered provisional.

In all countries, emphasis is placed on increasing the efficiency of agricultural production and achieving the transition to a path of intensive economic growth. To this end, improvements and readjustments of the organizational structure and planning methods are to be introduced. Economic incentives and management systems will be modified to meet new requirements.

In *Bulgaria*, further improvements in the organizational and management system of the national agro-industrial complexes are envisaged, in accordance with new criteria. The independence, rights and responsibilities of the agro-industrial complexes and the other economic organizations in food industry are to be extended. Total agricultural output in 1986-1990 is expected to rise by 6-8 per cent compared with 1981-1985. The average grain harvest should stabilize at 10 million tons per year. New technologies are expected to raise the yields of almost all crops by 20-25 per cent. Programmes to supply high-grade fodder and to standardize animal feed rations have been outlined. These are considered as essential elements in the intensification of livestock production.

In *Czechoslovakia*, agricultural organizations will begin to function under a less centralized system, and new management guidelines are being worked out. Emphasis will be placed on improving links between the central authorities, with the aim of harnessing the initiative of the production enterprises themselves. The immediate task of the agricultural and food complex as a whole is to ensure high standards of nourishment. The country is also expected to become more self-sufficient, especially in grain production. Agriculture will be expected to comply with the urgent need to reduce production costs, to minimize waste of all kinds, and to use raw materials, energy and fixed assets more effectively.

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[270] *Scinteia*, 17 November 1985.

[271] The Food Programme of the Soviet Union for the period ending in 1990 was adopted in 1982 by the Central Committee of the CPSU. For further details, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, p. 146.

No draft has yet been published on the five-year plans to 1990 by the *German Democratic Republic*.

In *Hungary*, priorities in 1986-1990 consist in an acceleration of economic growth in general and further improvements in living standards. Gross agricultural production is planned to increase by 8-10 per cent between 1981-1985 and 1986-1990.

In *Poland*, a programme for developing agriculture and the food economy to the year 1990 was adopted in 1983. Measures intended gradually to increase the production of grain and especially high-quality wheat are beginning to take effect. It was projected that wheat requirements could be met entirely from home production as early as 1988. The basic objective was to attain self-sufficiency in basic food production while increasing agricultural exports (Poland plans to export 220,000 tons of meat by 1990). The modernization and faster development of agriculture and the food industry is seen an important element of the new five-year plan. Increased agricultural output and lower production costs are emphasized, and measures will be taken to raise deliveries of agro-chemicals and technical equipment, to improve water and power supplies, to extend food processing capacity and to expand storage facilities. Various organizational changes are foreseen to raise the profitability of production for livestock poducts, vegetables and fruits and to reduce crop losses and waste. Gross agricultural output is planned to increase by 2-2.1 per cent annually (crop production by 1.8-2.9 and livestock output by 2.1 per cent) between 1981-1985 and 1986-1990.

For *Romania*, the draft 1986-1990 five-year plan stipulates an intensive development and modernization of the agriculture and increased crop and livestock production. Agricultural land is to be expanded by more than 500,000 ha. About 1.8-2.3 million ha will be brought under irrigation, and 1.5 million ha under drainage. Work to prevent soil erosion will be undertaken on 800,000 ha. Total agricultural output is planned to increase at an average annual rate of 5.4-5.8 per cent. Grain production in 1986-1990 is to rise by 24-30 per cent compared with 1981-1985. Stock breeding, especially cattle and sheep farming, is to be oriented mainly towards mountain and hill pastures and hayfield areas. Meat production in 1986-1990 is expected to increase by 38-41 per cent over 1981-1985, milk by 46-51 per cent and eggs by 27-35 per cent.

In the *Soviet Union*, the role of economic levers and incentives in agricultural management is to be increased, and the number of obligatory plan indicators will be reduced. In particular, the price system is to be improved and bonuses for high-quality grain and other agricultural products will be emphasized.

In November 1985, the CPSU Central Committee and the USSR Council of Ministers adopted a resolution "On further improving the management of the agro-industrial complex".[272] A new State Agro-Industrial Committee of the Soviet Union (Gosagroprom SSSR) was created. Its task is to improve management and strengthen integration among different branches of agro-industrial production, to ensure further progress in the intensification of Soviet agriculture and considerable expansion in the range of foodstuffs produced. The new State Agro-industrial Committee will bring together large numbers of industrial food processing and agriculture productions. Constituent enterprises will account for nearly one third of total Soviet national output and 95 per cent of food production.

The average volume of Soviet gross agricultural output in 1986-1990 is to increase by 14-16 per cent over 1981-1985 levels. This is to be achieved mainly by more intensive use of production factors. Labour productivity in the public sector of agriculture should increase by 21-23 per cent compared with 1981-1985. Grain production is to reach 250-255 million tons,[273] and production of other types of feed is to be developed. Meat production is expected to rise to 21 million tons (slaughter weight) by 1990, milk to 106-110 million tons and eggs to 80-82 billion units. An increase in the returns from intensive factors in livestock breeding is wholly dependent on improving animal nutrition. Thus the further development of feed production and increases in its protein content, as well as other aspects of the intensive development of animal husbandry, remain a high priority in the Soviet Union.[274] According to the Food Programme of the Soviet Union for the period ending in 1990, agriculture is to be allocated about 27-28 per cent of total material sphere investment, and the agro-industrial complex as a whole—33-35 per cent.[275] Agricultural machinery and equipment to a value of at least 43 billion roubles will be delivered to farms, of which 17 billion roubles is allocated for livestock and feed production.

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[272] *Pravda*, 23 November 1985.

[273] M. S. Gorbachev outlined the strategic target of the Soviet agriculture in the near future to be production at least 200 million tons of grain in any year with unfavourable weather conditions and 250 million tons or more in normal years. (Speech of M. S. Gorbachev on 7 September 1985 in Tselinograd: *Pravda*, 11 September 1985.)

[274] See, *Selskaya zhizn*, 12 October 1985.

[275] *Prodovolstvennaya programa SSSR na period do 1990: meri po ee realizatsii* (The Food Programme of the USSR until 1990: measures for its implementation), Moscow, 1982, p. 51.

3.3 INDUSTRY

Industrial growth moderated in 1985. The effect of supply constraints, mainly of fuels and energy due to the severe winter, were reinforced by weaker external demand. Some progress was made in improving industrial efficiency. However, progress is judged to be slow, particularly in reducing the energy and material intensity of industrial output. The share of high-technology branches in total output rose. Industrial growth is examined in subsection (i), constraints on factor inputs and efficiency changes in subsection (ii), energy production and supplies in subsection (iii), measures taken to increase industrial efficiency in subsection (iv) and structural adjustments in subsection (v). The main policy objectives for 1986 and medium-term prospects are discussed in subsections (vi) and (vii).

(i) Recent and medium-term industrial growth

Average industrial growth in the centrally planned economies of eastern Europe and the Soviet Union slowed down from 4.3 per cent annually in 1983 and 1984 to 3.9 per cent in 1985 (table 3.3.1). A moderation in the rate of industrial growth had been envisaged by the annual plans, which implied aggregate industrial output growth for the seven countries as a whole of 4.1 per cent. Industrial output targets set in these plans were not fulfilled in the majority of countries. Performance was strongly affected by an unusually severe winter and the tight energy situation. The difficult start to 1985 led to missed production targets in some industrial branches, lower exports than planned, higher energy consumption, and transport difficulties. In Bulgaria, Hungary and Romania, gross industrial production levels in the first three months of the year even declined compared with the corresponding period of 1984. Industrial growth gained momentum in the second quarter (the rate of aggregate gross industrial output in the first half of the year was twice as high as in the first quarter) and continued up to the year's end.

The overall weakening of industrial performance in 1985 was evident in *eastern Europe*, where industrial output growth rates fell from 4.8 per cent in 1984 to 4 per cent in 1985. The aggregate industrial growth target of 4.6 per cent was thus not met. The main factors contributing to the slowdown were fuel and energy shortages and delivery problems caused by the cold winter. In addition to these supply constraints, industrial growth was adversely affected by changes in external demand, which slackened in comparison with 1984. On the other hand, increased eastern imports from the west, and the shift in the structure of east European imports away from food towards raw materials, fuels and intermediate goods, helped to ease shortages in some branches. Some analysts[276] see energy, raw material and foreign trade constraints as the main factors limiting industrial growth. The achievement of improved efficiency in the use of production inputs, together with faster adjustment to changing demand, were thus decisive for industrial performance.

In the *Soviet Union*, however, gross industrial production rose by 3.9 per cent in 1985, in line with the annual plan. But although the overall industrial output target was met, some targets were not—mostly because of the slow transition to an "intensive" (resource-efficient) path of industrial development.

This general picture conceals important inter-country differences. In *Bulgaria*, industrial production increased by 4 per cent compared with a target of 5.2 per cent. The severe winter, followed by a drought, adversely affected the fuel and energy sector, where the levels of production fell compared with 1984. This in turn held back output in other branches—particularly metallurgy, where production virtually stagnated. Other factors contributing to below-plan performance included slower than expected efficiency improvements, and managerial inertia.[277] *Czechoslovakia* performed relatively well. Gross industrial production grew faster than planned (by 3.4 against 3 per cent). This reflected an easier energy- and material-supply situation, and progress made in reducing the energy and material intensity of industrial output. The *German Democratic Republic* was the only country where the industrial expansion in 1985 (4.4 per cent) was higher than in the preceding year (4.2 per cent) and also ahead of the plan target (3.8 per cent). Adequate energy supplies and the progress made in implementing intensification policies and in speeding up innovative activity contributed to stable and high industrial growth. The industrial combines, set up in the second half of the 1970s, and their subsequent strengthening, have been of fundamental importance in achieving the fast transition of industry to a more resource-efficient performance.[278] In *Hungary*, industrial output increased by only 1 per cent—substantially below the 3 per cent annual plan target. Supply constraints, as well as weak domestic and external demand, contributed to slow growth. Deficiencies in management at the national level and within enterprises may also have played a role. In *Poland*, industrial performance in 1985 was below expectations. Industrial output increased by 3.8 per cent against the planned 4-4.5 per cent. Some of the shortfall was due to the severe winter, but persistent material supply constraints and low investment levels over the last seven years also held back industrial growth. In *Romania*, an ambitious industrial output growth target of 7.5 per cent was not met and the actual increase was 4.9 per cent. The excessive energy intensity of output was a major brake on industrial growth. Severe winter conditions and the expansion of output by energy-intensive branches increased total energy demand as domestic energy output declined.

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[276] See, for example, K. Dyba, R. Vintrová: "The Czechoslovak economy in the 1980s", *Finance a úvěr*, No. 7, 1985, pp. 443-456.

[277] See an interview with T. Bozhinov, Deputy Chairman of the Council of Ministers of Bulgaria, *Rabotnichesko delo*, 7 October 1985.

[278] The positive role played by the combines, and the measures introduced in recent years to improve the management system (four main indicators for evaluating the performance of combines have been introduced: net output, net profit, production of goods for domestic consumption and for exports) is stressed in an article by H. Koziolek: "Die socialistische Planwirtschaft in der DDR und ihre weitere Vervollkommnung" (Socialist plan economy in the GDR and its further perfecting), *Wirtschaftswissenschaft*, No. 9, 1985, pp. 1286-1300.

TABLE 3.3.1

Industrial output growth
(Average annual percentage change)

	1976-1980 actual	1981-1985		1981	1982	1983	1984	1985		1986 plan
		Actual	*Plan*					*Actual*	*Plan*	
Bulgaria	6.0	4.5	5.1	5.4	4.6	4.3	4.2	4.0	5.2	4.5
Czechoslovakia	4.7	2.7	2.7-3.4	2.1	1.1	2.8	4.0	3.4	3.0	2.6
German Dem. Rep. [a]	5.0	4.1	5.1	4.7	3.1	4.1	4.2	4.4	3.8	3.8
Hungary	3.4	2.1	3.5-4	2.4	2.5	1.2	3.2	1	3.0	2-2.5
Poland	4.7	0.3	3.8-5.4 [b]	−10.8	−2.1	6.4	5.2	3.8	4-4.5	3.2-3.6
Romania [c]	9.5	4.0	7.6	2.6	1.1	4.7	6.7	4.9	7.5	8-9
Eastern Europe	5.6	2.7	3.7-3.8	−0.6	1.2	4.4	4.8	4.0	4.6	4.4
Soviet Union	4.5	3.7	4.7	3.4	2.9	4.2	4.1	3.9	3.9	4.3
Eastern Europe and the Soviet Union	4.8	3.4	4.4	2.2	2.4	4.3	4.3	3.9	4.1	4.3

Source: National statistics, plans and plan fulfilment reports.

[a] Marketable production.

[b] Three-year plan 1983-1985.

[c] Since 1981, marketable production.

Since 1985 was the last year of a five-year plan period in all seven countries reviewed, a preliminary medium-term assessment of their industrial performance in the whole period 1981-1985 is appropriate. Medium-term growth was strongly influenced by the marked slowdown which occurred in almost all countries concerned in 1981-1982. Worsened external conditions, as well as domestic shortages of production inputs, contributed significantly to this. Industrial policies strove to adjust industrial growth rates and patterns to these shortages and to changing demand. The resulting slowdown was more pronounced in eastern Europe than in the Soviet Union. Industrial output growth fell to the historically low rates of 2.2 and 2.4 per cent for the seven countries combined in 1981 and 1982. In 1983 and 1984, a marked upswing in industrial growth took place in most of the countries concerned (Bulgaria and Hungary in 1983 were the only exceptions). The most important factors contributing to this acceleration were successful measures to remove supply constraints and to improve the efficiency of resource use.[279] Though industrial performance in 1985 did not fully meet expectations, the rate of industrial output growth achieved was nevertheless substantially higher than in the early 1980s. Aggregate gross industrial production in eastern Europe and the Soviet Union combined grew by an average annual rate of 4.2 per cent in 1983-1985—almost twice as high as in 1981-1982. Industrial policies which stressed accelerated industrial growth on the basis of greater efficiency in the use of resources (notably those in short supply such as fuels, energy, raw materials and imported materials), and also faster adjustment to changed internal and external conditions, brought some positive results—and industrial growth accelerated significantly in 1983-1985.

In assessing industrial performance in the whole period 1981-1985 as compared with the five-year plan targets, the important role played by adverse changes in economic conditions at the beginning of the 1980s, particularly in the external environment, should be kept in mind. These were not foreseen in 1980-1981 when the original five-year plans were prepared and approved. Actual industrial development in 1981-1982 deviated significantly from the original industrial output targets embodied in the five-year plans. Subsequently published annual plans were more realistic in assessing possibilities for expanding industrial production. The annual plan targets for aggregate gross industrial output growth in 1983 and 1984 were even overfulfilled for the seven countries as a whole. However, the targets retained in the 1981-1985 five-year plans were missed in most countries. Poland succeeded in fulfilling its three-year industrial output target for 1983-1985 but, because of the considerable contraction in earlier years, production in 1985 was only slightly higher than in 1980.

In a longer-run perspective, industrial growth in 1981-1985 slowed down compared with 1976-1980 in all east European countries and the Soviet Union. The highest industrial growth rates in 1981-1985 were recorded by Bulgaria and the German Democratic Republic (annual average rates of 4.5 and 4.1 per cent respectively), followed by Romania (4 per cent) and the Soviet Union (3.7 per cent). Czechoslovakia and Hungary reached 2.7 and 2.1 per cent respectively. In Poland, output practically stagnated as compared with 1980 (an average annual growth rate of 0.3 per cent was attained) (chart 3.3.1).

One reason for the deceleration in industrial output growth between 1976-1980 and 1981-1985 was the internal and external constraints discussed above. On the other hand, readjustment to the new conditions lagged. Efficiency and structural changes based on the introduction of new techniques and technology, and improvements in the technical level and quality of products proceeded slowly. Moreover, management methods proved inadequate to new and more demanding conditions.[280]

(ii) Shortages of factor inputs and efficiency changes

The shortages of production inputs, which affected industrial growth in the first half of the 1980s, underlines the fact that further extensive industrial growth based on increasing production inputs has definite limits. Industrial strategy needs to focus its attention on higher efficiency in the use of produc-

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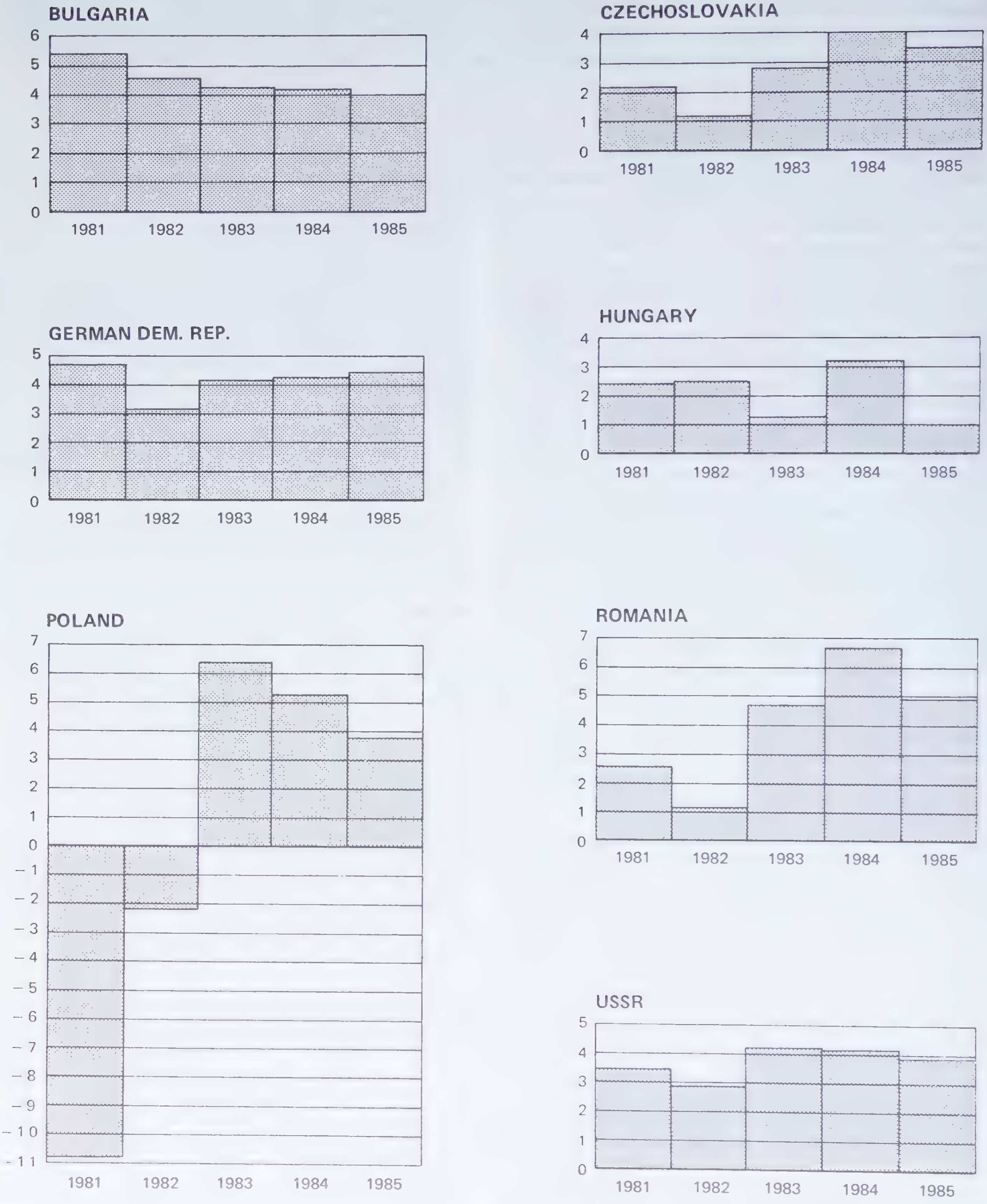
[279] See the analysis in the previous edition of this publication, United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 115-116.

[280] A similar assessment was published in *Pravda*, 9 November 1985, p. 1: "At the same time a slowdown of economic growth took place and the process of improvement of intensification, structure of production and methods of management was insufficient. The introduction of new techniques and technology was slow. The technical level and quality of many products, including consumer goods in broad demand, lagged behind the present requirements."

CHART 3.3.1

Growth of gross industrial output

(Annual percentage change)



Source: National statistical yearbooks and plan fulfilment reports.

tion resources. Progress in implementing this strategy as regards productivity in general and its main aspects (labour productivity, material intensity and capital productivity) are examined in this subsection.

Industrial employment growth in the seven countries combined declined markedly between 1976-1980 and 1981-1985 (average rates of growth falling from 1.3 to 0.5 per cent). Possibilities for expanding production by higher employment thus diminished. The declining trend in industrial employment growth continued in the course of 1981-1985. In 1984 and 1985 the annual increase in industrial employment in the seven countries as a whole was only 0.3 per cent in both years. The size and direction of changes differed by country: Hungary and Poland (except in 1984) witnessed falls in industrial employment in all years 1981-1985. In Bulgaria, Romania and the Soviet Union the deceleration continued. In Czechoslovakia and the German Democratic Republic, industrial employment increases were rather stable at about half a percentage point annually. Limited labour resources thus constituted a challenge to boost *labour productivity*. As can be seen in table 3.3.2, industrial labour productivity growth accelerated in 1983 and 1984 in all countries of the region but Hungary. It moderated in 1985 throughout eastern Europe and in the Soviet Union—in the former case from 4.5 in 1984 to 3.9 per cent in 1985 and in the latter from 3.7 to 3.5 per cent. This reflected a slowdown in the rates of industrial output growth in 1985. On the other hand, labour productivity growth accelerated in 1985 against 1984 in Bulgaria and the German Democratic Republic. In Poland and the Soviet Union the deceleration was small. In Czechoslovakia and Romania, however, the deceleration was marked and in Hungary it was substantial. The slowdown in labour productivity growth between 1981-1985 and 1976-1980 was not as great as for industrial output growth because of the declines in employment growth noted above. In aggregate, labour productivity growth in eastern Europe and the Soviet Union declined from 3.4 per cent annually in 1976-1980 to 2.9 per cent in 1981-1985.

The modest increases in industrial employment in 1981-1985 narrowed the gap between output and labour productivity growth. As shown in table 3.3.3, the contribution of labour productivity to the rise in industrial output increased continously in individual years 1981-1984 and stabilized in 1985 in the seven countries as a whole.

The *material intensity* of industrial production improved in 1983 and 1984 in all east European countries (except Poland). The performance of the Soviet Union in this respect was below expectations (table 3.3.4). The implementation of measures to reduce the material intensity of production was often less rapid and widespread than envisaged. The introduction of new technology to reduce energy and material inputs was hampered by the investment slowdown, and a modest level of structural readjustment also contributed to below-plan performance. Exceptions are again Bulgaria and the German Democratic Republic, which both achieved important cuts in the consumption of material inputs per unit of output in 1983 and 1984. Performance also improved in Czechoslovakia in 1984, in Hungary in 1983 and in Romania in 1983.

Developments in 1985 can be judged only on the basis of the partial and incomplete information in plan fulfilment reports. In *Bulgaria* the plan for 1985 envisaged that more than two thirds of NMP growth would be covered by material input savings. However, the actual decline in costs of production per unit of output was modest, and the targets set for the year were not achieved. In *Czechoslovakia*, the consumption of energy, raw and other materials per unit of output decreased, but not to the extent planned. Inportant gains were, however, achieved in the *German Democratic Republic*, where consumption of main energy, raw and other materials per unit of output declined by 3.5 per cent. The 9 per cent rise in net industrial output, compared with a 4.5 per cent rise in marketable production, implies substantial material input savings, and points up the continuing success achieved by the German Democratic Republic in this respect. No data on progress in this area have been published by Hungary and Poland. In *Romania*, the reductions in the material intensity of industrial production were substantially below expectations. Net and gross industrial production in 1985 grew at the same rate (4.9 per cent), whereas the plan envisaged substantially faster growth of net output (13.5 per cent) than gross output (7.5 per cent). In the *Soviet Union*, the objectives set for material input saving by the plan were not reached by many industrial enterprises and serious shortcomings in the use of recycled materials persisted.

In general, the material intensity of industrial production declined only slightly in 1985 in most of the countries for which data are available—the exception being the German Democratic Republic where substantial progress was made. Planned targets were not reached, partly because of the impact of the severe winter, higher than planned growth of material-intensive branches in some countries and insufficient implementation of resource saving measures.

As will be seen in subsections (vi) and (vii), the attainment of lower material intensity of output is now an important element of industrial strategy and the targets retained for 1986-1990 are demanding. International co-operation in this area is to be extended. The 40th Session of the Council for Mutual Economic Assistance, held in June 1985, approved a *Programme of rational utilization for the material resources up to the year 2000*, which lays down several guidelines for co-ordinated action:

— co-operation in the production of new machinery and equipment to economise on fuel, energy, raw and other material consumption;

— co-operation in introducing new technologies and materials;

— co-operation in using secondary and recycled materials;

— measures affecting organization and standardization.[281]

Declining industrial *capital productivity* continued to hold back overall productivity gains in 1981-1985 and was the subject of serious concern. As shown in table 3.3.5, the declines in industrial capital productivity slowed down in 1983 and 1984 in all countries of the region. This reflected an acceleration in industrial output growth in 1983 and 1984. Some further improvement can be expected in 1985. Among the factors which contributed to declining levels of industrial capital productivity, the following are often stressed:[282]

— slow retirement of worn-out or obsolete machines and equipment;

— insufficient technical progress incorporated in new fixed assets put into operation;

— slowdown in the transfer of technology from abroad;

— the attainment of relatively small economies of scale due to the insufficient development of the international division of labour;

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[281] O. Henyš: "Programme of rational utilization of resources up to 2000", *Hospodářské noviny*, No. 34, 23 August 1985.

[282] K. Zeman: "Productivity stimulates economic growth", *Hospodářské noviny*, No. 43, October 1984.

TABLE 3.3.2

Industrial labour productivity growth [a]
(*Average annual percentage change*)

	1976-1980	*1981-1985*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	4.6	2.9	2.5	2.2	2.9	3.3	3.6
Czechoslovakia	4.2	2.2	1.5	0.7	2.3	3.6	2.8
German Dem. Rep.	4.3	3.7	4.2	2.9	3.9	3.8	3.9
Hungary	5.0	3.7	5.0	4.9	3.4	3.5	1.6
Poland	4.5	1.5	−10.6	2.7	6.5	4.5	4.4
Romania	5.8	2.8	0.5	−1.0	3.0	6.9	4.8
Eastern Europe	4.7	2.7	−1.1	2.1	4.0	4.5	3.9
Soviet Union	2.8	3.0	2.5	1.9	3.6	3.7	3.5
Eastern Europe and the Soviet Union	3.4	2.9	1.4	2.0	3.7	4.0	3.6

Source: National statistics and plan fulfilment reports.

Note: Due to differences in coverage of industrial employment, figures in this table may differ slightly from officially reported data.

[a] Gross industrial output per employee.

TABLE 3.3.3

Contribution of labour productivity to the growth of industrial output
(*Percentage shares*)

	1976-1980	*1981-1985*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	78	64	46	48	67	79	90
Czechoslovakia	89	81	71	64	82	90	82
German Dem. Rep.	86	90	89	91	95	90	89
Hungary	147	176	179	196	283	109	160
Poland	96	. .	. .	. .	102	86	116
Romania	61	70	19	. .	62	103	98
Eastern Europe	84	100	. .	175	91	94	97
Soviet Union	62	81	73	65	86	91	90
Eastern Europe and the Soviet Union	71	85	64	83	86	93	92

Sources: As for table 3.3.1.

Note: Due to differences in coverage and methodologies applied, figures in this table may differ slightly from officially reported data. When industrial employment decreases in absolute terms, the proportion of output growth accounted for by rising labour productivity is more than 100 per cent.

— systemic shortcomings (inadequacy of incentives to encourage the intensification process).

Though some improvements in capital productivity have occurred, progress is still judged unsatisfactory. New measures are to be taken to accelerate the liquidation of obsolete equipment, to improve the technical performance of new fixed assets and to increase capacity utilization rate. A larger share of investments is to be allocated to retooling existing plant.

(iii) Energy production and supplies and their impact on industrial growth

The overall energy situation in the east European countries and the Soviet Union improved substantially in 1982-1984 and this contributed to the acceleration of industrial growth noted earlier. In the region as a whole, the primary energy production increased by 3.4, 2.2 and 2.8 per cent in 1982, 1983 and 1984 respectively. Increases in primary energy production were recorded in all three years by all countries, except for Hungary in 1983 and Bulgaria in 1984 (see table 3.3.6).

The annual plans for 1982-1984 called for the stabilization of domestic energy production and for reductions in energy consumption per unit of output. Some progress in both respects was made. Energy saving measures were incorporated into the national programmes to reduce the energy-intensity of production. The long-term energy programme of the CMEA countries provides a mechanism for co-ordinating national energy policies.

The picture in 1985 was not uniform. Generally the energy supply situation was tight, especially at the beginning of the year when severe winter conditions increased demand and held back fuel and energy output. As noted earlier, fuel and energy shortages were important factors constraining overall industrial growth in the majority of the countries reviewed. Preliminary data indicate that primary energy production fell in Bulgaria in 1985 (by 4 per cent), in Czechoslovakia (by 0.8 per cent) and in Romania (by 2.1 per cent). Other countries succeeded in expanding primary energy output. Exceptionally good results were recorded by the German Democratic Republic (an increase of 5.5 per cent). Very high rates of growth were achieved in this country in the whole 1981-1985 period, averaging more than 4 per cent annually. This rate was not only higher than in the other countries but was also faster than was achieved in the preceding five years—and was a contributing factor to the high rate of overall industrial growth in the German Democratic Republic in the first half of the 1980s.

TABLE 3.3.4

Material intensity of industrial production
(Average annual percentage change)

	Gross output	Net output	Implied material intensity [a]
Bulgaria			
1976-1980	6.0	6.8	−0.8
1981	4.8	5.0	−0.2
1982	4.6	9.8	−4.7
1983	4.3	8.5	−3.8
1984	4.2	6.5	−2.2
Czechoslovakia [b]			
1976-1980	3.5	3.5	–
1981	–	−0.1	0.1
1982	0.4	−1.6	2.0
1983	2.1	1.6	0.5
1984	2.4	4.1	−1.6
German Dem. Rep. [b]			
1976-1980	5.0	5.0	–
1981	4.7	5.5	−0.8
1982	3.2	3.5	−0.3
1983	4.1	5.4	−1.2
1984	4.2	5.5	−1.2
Hungary [b]			
1976-1980	3.4	4.0	−0.6
1981	2.4	4.8	−2.3
1982	2.5	5.4	−2.8
1983	1.2	4.0	−2.7
1984	3.2	1.7	1.5
Poland			
1976-1980	4.7	2.6	2.0
1981	−10.8	−14.6	4.4
1982	−2.1	−4.5	2.5
1983	6.4	5.8	0.6
1984	5.2	5.4	−0.2
Romania [b]			
1976-1980	7.3	8.4	−1.0
1981	1.6	3.9	−2.2
1982	1.3	1.8	−0.5
1983	4.7	6.1	−1.3
1984	6.8	7.2	−0.4
Soviet Union [c]			
1976-1980	4.5	4.9	−0.4
1981	3.4	3.5	−0.1
1982	2.9	3.0	−0.1
1983	4.2	3.1	1.1
1984	4.1	3.6	0.5

Sources: National statistics and CMEA statistical yearbooks.

[a] Calculated from the ratio of gross output index to net output index.

[b] Based on national accounts statistics.

[c] Data on net output changes are taken from CMEA statistical yearbooks.

TABLE 3.3.5

Industrial capital productivity growth [a]
(Average annual percentage change)

	1976-1980	*1981*	*1982*	*1983*	*1984*
Bulgaria	−1.8	−3.0	−4.7	−3.3	−1.4
Czechoslovakia	−1.3	−4.3	−3.9	−1.7	−0.5
German Dem. Rep.	−0.5	−1.2	−2.8	−1.6	−1.5
Hungary	−3.8	−1.9	−2.3	−4.2	−2.2
Poland	−3.5	−13.7	−4.4	3.5	2.1
Romania	−0.6	−6.0	−7.7	−4.2	−2.6
Soviet Union	−2.8	−3.4	−3.7	−2.4	−2.1

Source: As for table 3.3.2.

[a] The ratio of industrial gross output to fixed assets.

In *Bulgaria*, fuel and energy supply problems arose in 1985 due to the cold winter. The exceptional drought which followed reduced hydro-electricity output, which accounts for 20 per cent of the country's generating capacity. In addition, the commissioning of new power stations was delayed. The Council of Ministers adopted a decree in 1985 outlining measures to achieve a balance between energy supply and demand. The annual plan for 1986 calls for a 6.8 per cent increase in electricity generation.

In *Czechoslovakia*, coal production declined in 1985 by 2.1 per cent—as envisaged by the annual plan. This decrease was largely compensated by a sharp increase in nuclear electric energy production (which rose by 63 per cent) and hydro-electric power (up by 35 per cent). The share of nuclear power in total electricity production reached almost 15 per cent in 1985. Reductions in the energy intensity of production ensured that industrial growth was unaffected by energy supply constraints in 1985. The plan for 1986 envisages a decline in fuel and energy output which will be offset by further substantial economies. Energy consumption per unit of NMP is planned to fall by almost twice as much in 1986 as in 1985.

As already noted, impressive results in expanding fuel and energy output were achieved in the *German Democratic Republic*. They were accompanied by big reductions in the energy intensity of production. Thus supply and demand was balanced in 1985. The plan for 1986 calls for a 6 per cent increase in lignite extraction and in electricity generation. Energy consumption per unit of output is to be reduced by 3.5 per cent.

Hungary experienced fuel and energy shortages. Coal production of 24 million tons lagged behind the targets of 25.2 million tons, and declined by 4 per cent against 1984. Nevertheless, this was more than compensated by increases in natural gas extraction and nuclear electricity.

In *Poland*, fuel and energy fell short of output targets in 1985. Coal production increased by 3 per cent, due to substantial increases in lignite extraction. Electricity generation rose by more than 2 per cent. The plan for 1986 envisages a roughly 2 per cent expansion of fuel and energy production. To achieve a balance between supply and demand, the consumption of energy per unit of NMP is to be reduced by 3 per cent. It seems that Poland is approaching its upper limit of hard coal extraction, and output is unlikely to rise much more in the second half of the 1980s.

In *Romania*, the 1985 plan for energy was ambitious,[283] but outcomes were substantially below target. It seems that fuel and energy supplies were a major constraint on Romanian industrial growth. Coal extraction increased by more than 5 per cent, but serious imbalances resulted from below-plan production of oil and natural gas. Oil output in 1985 was almost 2 million tons lower than planned, and 7 per cent below the level of production in 1980. Gas extraction also missed the plan target and remained below the 1980 level. Exceptional measures were taken in response to the energy crisis. The targets for 1986 are again ambitious (increases of 8, 50, 13 and 14 per cent are envisaged for electricity, coal, oil and gas production respectively). The consumption of primary energy per unit of NMP is to decrease by 4 per cent annually in 1986-1990.

In the *Soviet Union*, electricity generation and coal and gas extraction in 1985 increased by 4, 2 and 9 per cent respectively and the planned targets were overfulfilled. However, oil production declined by 3 per cent against 1984 and failed to

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[283] See: United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 126.

TABLE 3.3.6

Primary energy production
(Average annual percentage change)

	1976-1980	*1981-1985*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	2.1	1.2	-1.2	9.4	1.6	—	-4.0
Czechoslovakia	1.3	0.5	-0.5	1.1	1.5	1.2	-0.8
German Dem. Rep.	1.2	4.1	3.6	3.2	1.7	6.4	5.5
Hungary	1.5	1.3	-0.3	3.9	-1.4	2.3	2.2
Poland	2.0	1.0	-14.2	13.9	1.7	2.0	1.4
Romania	0.4	1.5	4.2	0.2	3.5	1.8	-2.1
Eastern Europe	1.4	1.5	-4.2	6.3	1.9	2.6	1.1
Soviet Union	4.2	2.5	1.8	2.8	2.3	2.9	2.5
Eastern Europe and the Soviet Union	3.6	2.3	0.7	3.4	2.2	2.8	2.3

Source: CMEA statistical yearbooks, national yearbooks and plan fulfilment reports.

Note: Data on primary energy production calculated by the ECE secretariat in standard coal equivalent (coefficients vary across countries). Figures for 1985 based on national plan fulfilment reports and ECE estimates.

reach the target. Various factors contributed to this shortfall, including the cold winter, the depletion of rich oil fields, insufficient infrastructure, organizational and management problems and the slow technical re-equipment of the oil industry. The plan for 1986 provides for a further expansion of fuel and energy output. Electricity generation is to rise by almost 4 per cent and nuclear power by more than 13 per cent. Oil production is to rise by 3.6 per cent, to reach 616.7 million tons. Natural gas and coal extraction are to increase by 5 and 1 per cent respectively. Energy consumption per unit of NMP is to be reduced by 3.2 per cent in 1986 and by 2.3 per cent annually in 1986-1990.

(iv) Measures taken to increase industrial efficiency

Declining trends in industrial growth at the beginning of the 1980s brought into focus the question of the efficiency with which production inputs are used. Measures to promote efficiency actually became decisive elements in the industrial policy of the countries examined in the 1980s.

Changes in efficiency resulted from numerous mutually related factors which can be classified according to different criteria. In general, the determinants of industrial efficiency growth can be grouped under the headings scientific and technical progress, human factors and the system of planning and management.

Science and technology of course influence the pace and direction of industrial development in many ways, and policies to promote their adoption cover the whole industrial cycle from research to application and diffusion. In this sense, the measures taken in recent years have usually been directed not only towards the quantitative expansion of scientific and technological potential but, more particularly, towards improving the quality and accelerating the application of research and development results to the production process. The measures which were adopted to speed up scientific and technical progress can be classified as follows: [284]

— *Improving the management and planning of scientific and technical development* and linking them with other constituents of overall economic development plans. All phases of the innovation cycle (research-development-production-introduction-use) are to be included in the plans. The "target-oriented programmes" of technological development have become the main instruments in setting the basic objectives and priorities of national scientific-technological policies. They include such innovations as an intensified application of electronics, automation, robotics, biotechnology and new materials.

— *The development of financial incentives for scientific and technological innovation* is now considered as an important part of overall scientific and technological policy in the countries examined. The role of enterprises' own financial resources and bank loans increased and special funds for financing the development of science and technology were created. Bonuses can be used to reward the workers, technicians, designers and researchers involved in successful innovation activity. In the Soviet Union, for example, pay increases for scientific workers, designers and technicians in industry were introduced in 1986, to provide a closer link between renumeration and personal contributions to scientific and technological progress. The bonuses can amount to 30-50 per cent of basic salary. There will also be price incentives: in the Soviet Union, as in some other centrally planned economies, supplements of up to 30 per cent on basic wholesale prices are expected to be paid to producers whose products meet the highest quality standards.

— *Institutional measures* have been taken in recent years to integrate scientific institutions and research organizations more closely with production units. Thus, for example, in the Soviet Union "scientific-production complexes" have been created. These organizations are expected to co-ordinate all stages of the innovation cycle, beginning with research, through construction, the supply of technology, the provision of testing laboratories and, ultimately, up to the manufacturing processes. In the German Democratic Republic, the great majority of research and development centres have been taken over by production enterprises ("combines").

— *International co-operation* among CMEA member countries has been extended and is expected to lay down long-term guidelines for the co-ordination of structural readjustment, scientific and technological policies and capital investment. In this respect, the "Comprehensive programme of scientific and technological progress up to the year 2000", adopted at the extraordinary 41st session of CMEA,[285] has particular importance. The document enumerates five priority areas: expansion and use of electronics in national economies through large-scale application of micro-electronics and computers; comprehensive automation based on the creation of flexible production systems and highly productive industrial robots; accelerated development of nuclear power generation; creation and introduction of new materials and techniques; and development of biotechnology. Special emphasis is being placed on the development of direct links between ministries, enterprises and organizations engaged in scientific and technological development. The 116th Session of the CMEA Executive Committee, held in Moscow in September 1985, focused its attention on legal, financial, price formation, credit and other measures for adoption by countries to promote direct production links between the economic organizations in different CMEA member countries. It was noted that present price formation systems do not favour the establishment of direct links between enterprises.[286]

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[284] See, for example, the decree of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers on "Measures for speeding-up scientific and technical progress in the national economy" (*Ekonomicheskaya gazeta*, No. 36, September 1983, p. 5); and also documents of the 8th Session of the Central Committee of the Communist Party of Czechoslovakia in June 1983, which was devoted to the accelerating application to production of the results of science and technology (*Rudé právo*, 17 June 1983).

Labour and wage systems rank among the most important elements for increasing industrial efficiency. Under conditions of rapid world-wide technological advance, improvements in the qualifications of the labour force, in the education and training systems and in incentive schemes are particularly important. This is also the case in the CMEA countries, all of which, as stated above, have experienced a slowdown in industrial employment growth. Manpower shortages can, of course, be compensated by improved quality and improvements in the efficiency with which labour is used. Employment mobility and labour retraining schemes can also contribute to structural adjustment policies aiming to increase efficiency. Measures to improve labour and wage systems thus focused on educational reforms, and enhancing the motivation of workers by widening wage differentials. Czechoslovakia introduced a two-stage wage reform: the wage system is first to be simplified, and manpower-use norms are to be more widely used. Hungary is trying to modernize the system of labour organization and incentives, to improve work discipline and management standards. Education and training policies are to be better co-ordinated with labour demand. In Romania, exports are to be stimulated by bonuses of up to 20 per cent of basic salaries. Similar incentives were introduced to encourage plan fulfilment. Some countries have recently introduced a new "brigade" system of labour organization.

Improved *management, planning and incentive systems* can also make important contributions to efficiency.[287] Attention is directed towards strengthening the planning system itself, promoting incentives, improving organizational structures and further decentralizing decision-making.

A number of industrial policy measures have been introduced in recent years to boost industrial efficiency. The basic aim was to shift industrial growth towards a predominantly intensive path. A comprehensive assessment of the effects of the measures is, however, difficult. There is an apparent gap between the efforts taken to increase efficiency and their results, as reflected in the changes of efficiency indicators. However, some time lag between the introduction of measures and their effects is inevitable. The deeply-rooted inertia in present management systems may prolong this period. External and other factors may also constrain efficiency growth. It has been officially admitted that improvements in efficiency still take too long and yield results which do not match the efforts made. Nevertheless, the acceleration of industrial growth in 1983-1985 in comparison with the early 1980s, improved labour productivity and also, observable reductions in the energy- and material-intensity of industrial output, suggest that some positive effects have resulted from measures taken. However, a longer-term assessment of industrial development in the centrally planned economies of eastern Europe and the Soviet Union clearly suggests that changes in the system of management and planning are a necessary precondition for further progress.

(v) Structural adjustments

The importance of structural change for industrial growth, its close relationship with scientific and technological progress, the deepening of the international division of labour and the satisfaction of final demand are frequently discussed in the centrally planned economies.[288] Structural change is seen as an important factor contributing to efficiency increases, the easing of bottlenecks, foreign trade expansion and better satisfaction of demand. However, the results of empirical analysis indicate that the contribution of structural change in industry to labour productivity growth was rather low, in fact negligible, in the period 1981-1984 in most of the countries examined (see section 3.8). In 1981-1982, a majority of them tried to re-establish balanced industrial growth and structural changes were directed to this objective. Policies were oriented towards the removal of bottlenecks, import substitution and export promotion. The recovery of industrial growth in 1983-1985 was, however, accompanied by less favourable developments in the structure of industrial growth and some of the expected efficiency gains were not achieved. In certain cases, higher than planned growth of energy- and material-intensive branches (fuel and energy, metallurgy, chemicals and heavy engineering) continued—mostly because energy and material input savings programmes did not yield the expected results. These branches also took a big share of industrial investment—which held back the modernization of fixed assets in other branches. Despite efforts to remove supply bootlenecks by developing certain branches rapidly in the early 1980s, shortages reappeared in some countries in 1985. They contributed to the slowdown in industrial growth (see subsection (iii) above). In Bulgaria, Hungary, Poland and Romania, the severe winter sharpened tensions in energy supply; and production in energy-intensive branches, such as metallurgy and chemicals, had to be held back.

On the other hand, growing efforts were made to accelerate scientific and technological progress, to satisfy domestic demand and to promote exports. Good performances in the engineering and chemical branches contributed to this (table 3.3.7). Chart 3.3.2 illustrates industrial growth patterns in the last decade, and confirms the priorities attached to the engineering and chemical industries in all countries under review. Output performance of the light and food industries differed by country, but was generally below the average for the industry as whole. This indicates that the relationship between the production of producer goods ("group A") and of consumer goods ("group B") developed in favour of the former in most countries (table 3.3.8).

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[285] *Ekonomicheskaya gazeta*, No. 52, December 1985, pp. 4-6.

[286] See the article by R. Rohlíček, Deputy Prime Minister of the CSSR, *Rudé právo*, 14 October 1985.

[287] As noted by a well-known Soviet author: "In the light of radical changes in the conditions and factors of economic growth, the CMEA countries will have to make adjustments in their economic policy, planning practices and economic thinking itself during the current decade". O. Bogomolov, "CMEA strategy for the 1980s", *Kommunist*, No. 7, May 1983.

[288] See, for example, K. Steinitz: "Intensiv erweiterte Reproduktion und Entwicklung der Produktionsstruktur" (Intensively expanded reproduction and the development of the production structure), *Wirtschaftswissenschaft*, No. 8, 1985, pp. 1121-1138.

The acceleration of structural changes in industry is an important objective of industrial policy for the forthcoming period.[289] Structural changes are designed to contribute more than in the preceding period to industrial efficiency growth. They are a precondition for accelerating and diffusing technological progress and for deepening the international division of labour—particularly between CMEA countries. As in the long-term programmes of co-operation adopted by the latter, national strategies give prominence to high-technology branches such as electronics and others.

(vi) Policy objectives and prospects for 1986

The seven countries' industrial policies for 1986 reflect the main directions of the five-year plans for 1986-1990 currently in preparation. Industrial growth is to be based on greater efficiency in the use of all production inputs. The transition to predominantly intensive industrial growth is to be accelerated. Aggregate gross industrial output is expected to grow by 4.3 per cent in 1986—slightly above the pace of industrial growth in the last three years (4.2 per cent), and also faster than in 1985 (3.9 per cent).

Plans for 1986 provide an indication of the likely pace of transition to more efficient (intensive) industrial growth which, as stated above, is expected to be the central feature of the five-year plans for 1986-1990. Industrial policies for 1986 generally focus on higher efficiency in the use of resources (particularly energy, raw and other material inputs), structural change and export expansion. Underlying this general picture there are, however, differences in the industrial strategies of individual countries, reflecting their specific economic constraints and opportunities.

Bulgaria envisages a 4.5 per cent rise in gross industrial output. This corresponds to the average rate of the previous five years and exceeds output growth in 1985. Strategy is based on the fast growth of branches promoting scientific and technological progress (engineering, electronics and micro-electronics, automation, new materials and biotechnology). A new approach in planning is to link scientific and technological programmes more closely with output and other plans at branch level.

Another new feature of the plan is that targets are established at branch rather than at ministerial level. Quite rapid growth is expected in 1986 in electronics (more than 11 per cent), engineering (more than 9 per cent), chemicals (5.4 per cent) and electricity generation (almost 7 per cent). Important savings are envisaged in the consumption of energy, raw and other material inputs per unit of industrial output, but no quantitative targets are given.

In *Czechoslovakia*, the plan for 1986 provides for a 2.6 per cent rate of industrial growth, markedly less than achieved in the preceding two years. The strategy is to reduce considerably the material intensity of industrial output. The rate of growth of net industrial output is planned at close to 4 per cent (based on information that four fifths of the planned rise in NMP produced will be generated by industry). Branch targets follow the strategy of previous years, also confirmed in the draft five-year plan for 1986-1990. High output growth is expected in the low energy- and material-intensive branches and in those linked with technological progress. Thus, electrical engineering is expected to increase its output by almost 9 per cent, engineering by almost 5 per cent and the pharmaceutical industry by 6 per cent. Stable or declining output is foreseen for fuel, energy and metallurgy. The light industry output target is 3 per cent. In general, the production of high quality products for export and the domestic market is emphasized.

A moderation of industrial growth is foreseen in the *German Democratic Republic* in 1986. Marketable industrial production is to grow by 3.8 per cent—compared with 4.2 per cent in the preceding three years. Net industrial output should increase by 8.5 per cent, which again implies a substantial reduction of intermediate consumption per unit of industrial output. Material costs per unit of output are to fall by 2.4 per cent. Scientific and technological progress is to be speeded up. Engineering is to occupy the key position in this process: the output of mechanical engineering is to rise by 6 per cent and that of electrical engineering by almost 8 per cent. High-technology products, such as micro-electronics, robots, automation technology and computers are to grow very fast. Chemical output is to expand by almost 4 per cent and very rapid growth is expected for light chemical products, organic chemicals and pharmaceuticals. Policy also stresses the production of high-quality consumer goods and increased supplies.

In *Hungary*, industrial growth is to accelerate from the remarkably slow rate of 1 per cent in 1985 to 2-2.5 per cent in 1986. Industry is expected to make a greater contribution to the growth of NMP produced and to the expansion of exports than in recent years. The annual plan requires faster adjustment to demand changes, more rapid growth of highly-processed products, reduction of energy and material consumption per unit of output and improvements in quality. Organizational changes and the switch to new forms of enterprise management have been announced to speed up the above processes. The plan for metallurgy is to improve the efficiency and quality of production. Engineering is to grow faster than industry as a whole, as should high-quality chemical manufactures.

In *Poland*, the plan for 1986 envisages rates of industrial output growth of 3.2-3.6 per cent—slightly less than actually achieved in 1985 (3.8 per cent) and substantially under the figure for the preceding three years (5.1 per cent). Industrial growth is likely to be affected by shortages having their origins in previous years and external constraints. Industrial policy now stresses the following priorities:

— improvement of export performance to generate convertible currency trade surpluses large enough to support both debt service and import requirements;

— faster progress of scientific and technological development, notably by means of faster growth in the output of branches promoting technological progress, such as engineering (5 per cent) and chemicals (5.4 per cent);

— improvement in the balance between domestic supply and demand by increasing deliveries of consumer goods (by almost 3 per cent) which is seen as an important prerequisite for reducing inflationary pressures;

— higher efficiency in the use of production inputs to reach planned output targets (the plan expects a 2 per cent reduction in the material intensity of industrial production).

The *Romanian plan* for 1986 embodies ambitious targets, calling for an 8-9 per cent rise in gross industrial output. The net industrial output target is substantially higher (12-15 per cent), indicating exceptionally large (6 per cent) reductions in

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[289] See L. Faluvégi: "Economic efficiency, control and management", *Acta Oeconomica*, vol. 33, No. 3-4, 1984, p. 202.

TABLE 3.3.7

Gross industrial output by major branches
(Annual percentage change)

	Energy	*Fuel*	*Metallurgy*	*Engineering and metal working*	*Chemicals*	*Construction materials*	*Wood and paper*	*Textiles*	*Other light industry*	*Food processing*
Bulgaria										
1976-1980	7.9	5.5	6.2	9.2	9.4	7.5	3.4	5.0	3.4	2.4
1981	6.8	−19.4	6.6	7.1	4.0	4.0	5.5	5.5	5.1	8.6
1982	9.2	−9.2	−1.7	8.2	6.6	2.6	3.1	4.2	2.8	4.0
1983	−4.2	−6.7	6.7	9.4	5.9	4.6	1.3	2.8	1.0	1.1
1984	4.8	−16.7	3.7	9.3	8.2	−0.2	2.5	2.1	3.1	1.9
Czechoslovakia										
1976-1980	4.8	2.6	2.8	6.7	5.8	4.4	5.2	3.5	3.8	2.7
1981	1.1	−0.5	0.7	4.2	1.7	1.8	1.5	2.7	2.2	1.3
1982	1.3	−1.5	−1.0	3.2	1.1	−1.7	3.7	1.2	2.0	−0.6
1983	2.0	0.7	0.8	5.0	3.5	0.3	2.4	1.8	0.5	2.6
1984	3.2	0.8	0.2	6.3	4.5	1.7	4.3	1.8	2.8	3.1
German Dem. Rep.										
1976-1980	4.8		4.0	7.0	4.8	2.3	..	3.7	4.2	2.8
1981	3.5		6.5	7.6	2.7	−0.6	..	2.6	2.5	2.0
1982	2.7		2.8	4.9	4.8	−3.2	..	2.5	3.0	−0.7
1983	4.6		2.7	5.6	2.9	2.6	..	1.8	4.1	3.9
1984	4.4		3.7	5.5	4.3	1.9	..	3.6	3.4	2.5
Hungary										
1976-1980	6.6	0.4	1.3	3.1	6.2	4.9	2.2	1.4	2.9	3.4
1981	6.4	−3.2	−5.6	5.8	2.3	1.0	0.4	0.8	9.9	2.4
1982	1.9	2.6	0.4	4.6	1.5	0.8	−3.6	−5.6	4.0	4.6
1983	3.1	−2.0	−2.1	1.9	1.5	1.6	3.2	0.8	1.1	1.6
1984	4.2	−0.6	1.3	2.2	4.0	1.8	4.6	2.1	3.7	3.1
Poland										
1976-1980	5.4	2.5	3.3	6.9	4.3	1.2	3.9	3.0	5.0	2.5
1981	−6.1	−12.7	−13.2	−12.1	−11.4	−17.6	−11.0	−12.7	−6.8	−8.6
1982	0.6	7.4	−7.1	−0.9	0.1	1.8	−0.7	−11.0	−0.1	−7.4
1983	8.4	3.1	6.7	6.9	8.2	5.1	9.5	1.8	8.4	5.4
1984	9.0	1.2	3.4	7.1	5.0	3.7	4.2	7.0	8.0	3.7
Romania										
1976-1980	4.7	3.9	7.7	12.6	9.6	12.8	6.5	10.8	8.7	6.1
1981	4.0	−1.3	3.1	2.2	4.0	–	2.3	6.4	5.3	−1.0
1982	−1.4	−2.6	−1.4	3.5	1.5	1.7	2.1	2.2	2.4	−2.1
1983	2.9	8.0	0.7	5.5	5.5	2.7	3.7	2.2	6.7	5.4
1984	6.7	4.3	9.3	8.8	8.2	4.9	3.0	−0.9	7.4	5.1
Soviet Union										
1976-1980	5.0	3.0	1.9	8.2	5.7	1.9	1.5	2.7	4.7	1.5
1981	2.2	1.9	–	5.9	5.5	1.9	3.6	2.1	3.5	2.1
1982	3.3	1.3	1.4	4.8	3.0	1.9	2.8	0.0	0.5	3.5
1983	2.6	1.9	4.2	6.3	5.9	4.9	4.0	1.4	0.5	5.4
1984	6.1	1.2	2.7	6.9	5.2	2.9	3.2	−0.7	3.4	3.8

Source: ECE secretariat calculations based on national statistics.

Note: Conversion of national classification of industrial output by branches to standard classification does not give complete comparability of data. In Hungary fuel includes ore mining and fuel. In Poland fuel includes also the output of the oil and gas branches. Metallurgy in Bulgaria and the Soviet Union includes ferrous metallurgy only. In the German Democratic Republic the national classification does not separate energy from fuel. Wood and paper is included in other light industry. There are also some slight differences in coverage of other light industry

TABLE 3.3.8

Producer and consumer goods in total industrial output
(Percentage shares)

	Producer goods					*Consumer goods*				
	1980	*1981*	*1982*	*1983*	*1984*	*1980*	*1981*	*1982*	*1983*	*1984*
Bulgaria	62.0	65.2	61.4	61.9	62.4	38.0	34.8	38.6	38.1	37.6
Czechoslovakia	68.2	68.1	68.2	68.4	68.6	31.8	31.9	31.8	31.6	31.4
German Dem. Rep.	66.4	66.5	66.7	66.8	66.5	33.6	33.5	33.3	33.2	33.5
Hungary	64.5	63.7	63.4	63.0	62.7	35.5	36.3	36.6	37.0	37.3
Poland	63.7	62.5	63.0	63.2	63.5	36.3	37.5	37.0	36.8	36.5
Romania	74.3	73.1	76.3	74.5	74.6	25.7	26.9	23.7	25.5	25.4
Soviet Union	73.8	73.7	75.1	74.9	74.9	26.2	26.3	24.9	25.1	25.1

Source: *Statisticheskii ezhegodnik stran-chlenov SEV 1984 and 1985* (CMEA Statistical Yearbook 1984 and 1985), Moscow

CHART 3.3.2

Industrial growth patterns

(Indices 1975 = 100)

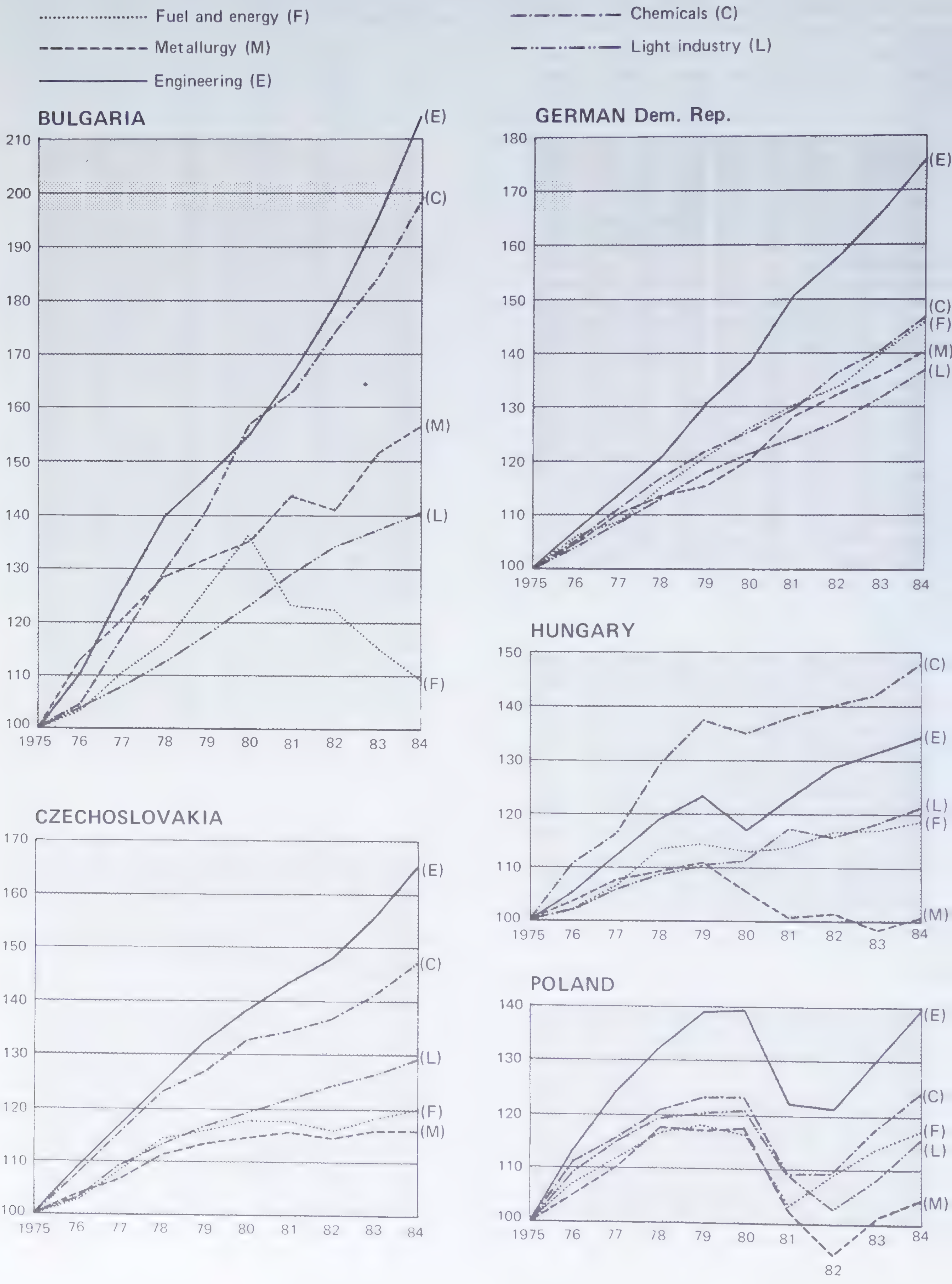
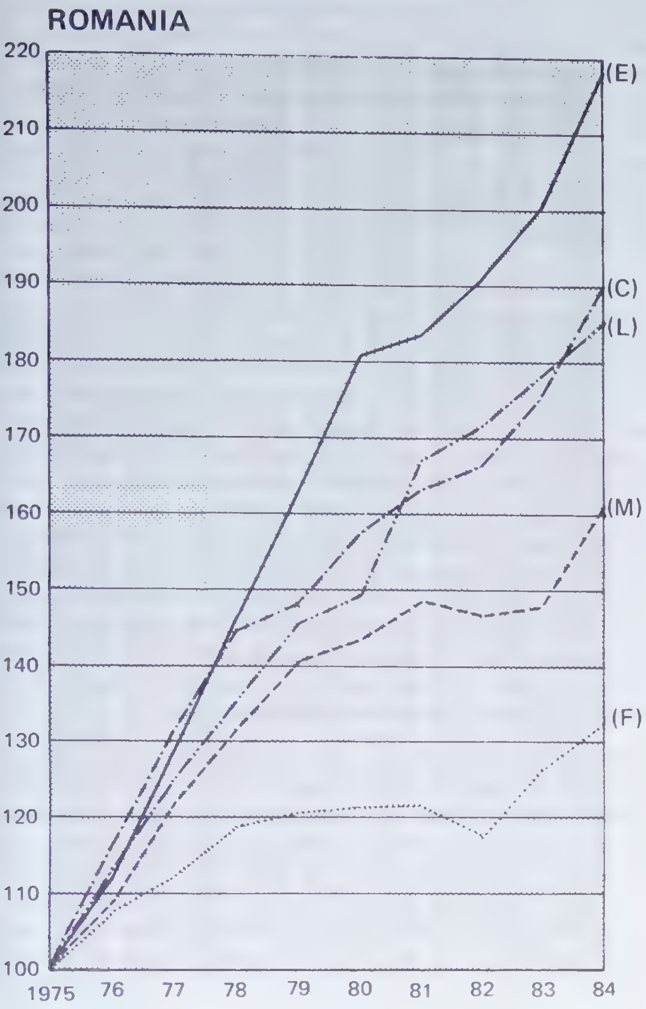
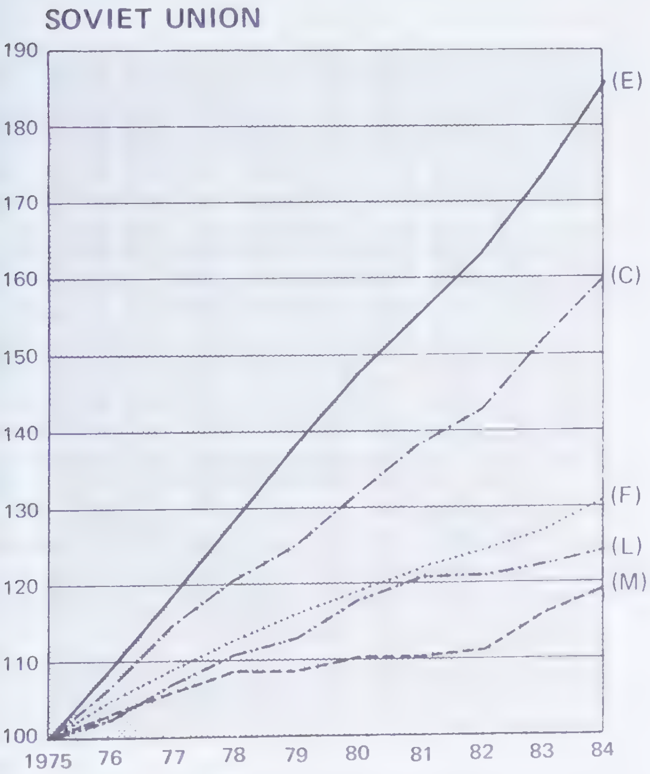


CHART 3.3.2 (continued)





Source: ECE secretariat calculations based on national statistics.

production costs per unit of industrial output. Compared with actual industrial performance in 1981-1985, the growth target appears optimistic.

Industrial labour productivity growth is to surpass the growth rate of industrial output, implying that the plan foresees an absolute decline in industrial employment. Accelerated technical progress, and structural changes and improvements in labour organization are seen as main factors in achieving these targets. No plans are available for the growth of individual industrial branches (production targets for selected industrial products only were published). However, the highest growth rate is foreseen in engineering and chemicals, the former is expected to account for almost 30 per cent of total industrial output in 1986. Consumer goods supplies are to be improved; the National Assembly adopted a "Programme on self-management and self-sufficiency" to improve supplies of foodstuffs and consumer goods.[290]

The *Soviet Union's plan* for 1986 envisages an acceleration of industrial growth from 3.9 per cent in 1985 to 4.3 per cent in 1986. Industrial policy aims at speeding up scientific and technological progress, modernizing and improving industrial structures, and ensuring greater efficiency in the use of production resources (especially energy, raw and other material inputs). Industrial labour productivity is to increase by 4.1 per cent and the contribution of labour productivity to industrial growth is expected to reach 95 per cent. Structural change will involve the fast growth of branches linked with scientific and technological progress and higher efficiency in resource use. Thus, engineering is to grow by 6.6 per cent and the share of high-quality products should reach almost 45 per cent. Priority is given to flexible production and automated systems, industrial robots and computers. Special attention in engineering is to be paid to objectives related to the implementation of long-term programmes for food, energy and consumer goods production. The drive for faster modernization and retooling of engineering is reflected in the intent to replace 5-10 per cent of worn-out or obsolete machines and equipment (compared with an average of only 3 per cent in 1981-1985). In metallurgy, emphasis is on the qualitative aspects of production; the rate of growth of high-quality metals is to be substantially accelerated. A similar emphasis is put on the chemical and light industries. Consumer goods production is to grow faster (by almost 5 per cent) than total industrial output, and a "Comprehensive programme for the development of consumer goods production and the sphere of services up to the year 2000" was adopted, with the objective of improving supplies and quality and to broaden the assortment.[291] The acceleration of industrial growth is to be accompanied by slower rates of increase in fuel, energy, and raw material consumption and labour resources. Hence, the attainment of efficiency increases based on improved management and high technology will be decisive for fulfilling the plan target.

(vii) Medium-term prospects

The final drafts of the five-year plans for 1986-1990 are still under preparation in most countries. Therefore only the main provisional guidelines for industrial development in some east European countries can be examined here. Common features are:

— the acceleration of economic growth in comparison with the previous five-year period. Industry is expected to be the fastest growing sector of NMP. Net output growth targets are set higher than those for gross output. This reflects policies to reduce energy and material input consumption per unit of industrial output;

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[290] *Scinteia*, 17 November 1985.

[291] *Ekonomicheskaya gazeta*, No. 41, October 1985, pp. 3-7.

— the transition to a predominantly intensive path of industrial growth. This is to be speeded up through higher efficiency in the use of inputs. Industrial efficiency targets are very demanding in comparison with the preceding five-year period. A striking feature of the draft plans for 1986-1990 is the slow growth of energy, raw and other material inputs and the substantial improvements required in the energy- and material-intensity of industrial output. Industrial efficiency is expected to reach a "qualitatively new level";

— structural changes are to take place on a wide scale and will reflect the changed supply and demand situation. Balanced industrial growth is to be promoted. The pattern of industrial growth is to be shaped in conformity with the requirements of scientific and technological progress and the international, and especially the intra-CMEA, division of labour;

— the quality and technical level of industrial goods is to be substantially improved;

— export promotion will rank among the priority objectives of industrial policy.

Information on industrial development in 1986-1990 for the German Democratic Republic is not available at the time of writing. In the following pages only a preliminary brief appraisal of expected industrial development in the remaining east European countries and in the Soviet Union is given.

In *Bulgaria*, industrial output is expected to grow within a range of 4.6-5.4 per cent. Industrial policy stresses an acceleration of scientific and technical progress, structural changes and improved management as the main factors for improving industrial efficiency. Priority attention is devoted to the provisions of the "Comprehensive programme of scientific and technical progress up to year 2000" which was adopted by the CMEA countries (see subsection (iv) above). Such high-technology branches as information technology and telecommunications, micro-electronics and industrial robots are to expand very fast (by 15-25 per cent annually). Engineering and chemicals are singled out as the fastest growing industrial branches (annual rates of 8.5 and 7 per cent respectively). Electricity generation in 1990 is to reach 54-56 billion kWh, which implies on average a 5.7 per cent annual rise.

Czechoslovakia anticipates an average annual growth rate of nearly 3 per cent in 1986-1990. Net output is foreseen to grow faster, and the contribution of industry to the growth of NMP produced should rise relative to its share of gross material product because of material input savings. Efficiency improvements envisaged for 1986-1990 are ambitious. Energy intensity is to be reduced twice as quickly as in 1981-1985, labour productivity is to grow twice as fast and recent declines in capital productivity are to be substantially reduced. Structural changes are expected to reflect both supply constraints and changes in domestic and external demand. Energy- and material- intensive branches (fuel and energy, metallurgy and construction materials) are to grow only moderately. Electricity consumption is projected to rise 2 per cent annually up to the year 2000, and an expanded role is allocated to nuclear power. The share of nuclear electricity generated is to reach almost 30 per cent and one half of total electricity generated in 1990 and 2000 respectively. The fastest growing industrial sectors are electrical engineering (average annual growth rate of 10 per cent), pharmaceuticals (7 per cent) and engineering (5.5 per cent).

In *Hungary*, industrial growth is planned within a range of 2.5-3 per cent annually. Industrial policy sets structural readjustment, higher efficiency and improved competitiveness as basic objectives. Priority is given to engineering, particularly electronics and industrial robots, pharmaceuticals and biotechnology. The food industry is to be modernized in order to increase exports. A long-term research programme has been established to improve industrial structures. Key areas are: biotechnology, computers, telecommunications, automation and new materials.

In *Poland*, three variants of the five-year plan for 1986-1990 were elaborated, and the central one was finally chosen. Accordingly, industrial output is planned to grow at an average annual rate of 3.1 per cent. The industrial growth envisaged is conditional on substantial reductions in the consumption of energy, raw and other materials per unit of output, at unprecedented rates. More than half of the industrial production increases are to be achieved through energy and material inputs savings. The modernization of industry, the acceleration of scientific and technological progress in parallel with world developments, the introduction of energy and material saving technologies and export expansion rank among priority objectives. Stress is laid on the introduction of new technologies and the modernization of branches such as engineering and metallurgy. Electrical engineering is to expand very rapidly and product quality is to be considerably improved.

The draft directives for the 1986-1990 five-year plan in *Romania* embody ambitious targets. Industrial marketable production is expected to grow at an average annual rate of 6-6.5 per cent and net industrial output at 10-10.6 per cent. The emphasis of structural change is placed on high-technology branches. Engineering output is to grow by 7-7.5 per cent annually, electrical engineering by more than 10 per cent and chemicals by almost 9 per cent. The planned expansion of fuel and energy output (by almost 5 per cent) and metallurgy (by almost 6 per cent) can be considered as quite demanding, in view of the fact that output targets were not reached in 1981-1985.

The draft basic directives for economic and social development of the *Soviet Union* for 1986-1990 and the period up to the year 2000 envisage important progress in industrial performance. Industrial growth is expected to accelerate from an annual rate of 3.7 per cent in 1981-1985 to 3.9-4.4 per cent in 1986-1990. Considerable improvements are targeted for industrial efficiency. Industrial labour productivity growth is expected to exceed output growth, which implies a decline in industrial employment. The material intensity of output is planned to fall by 1 per cent annually. Some 75-80 per cent of future demand increments for fuels, energy, raw and other materials is to be covered by economies in their use. Capital productivity is also to be improved. Above-average growth rates are foreseen for engineering (7-7.7 per cent annually), chemicals (5.4-5.7 per cent) and the production of consumer goods (4.1-4.6 per cent). Fuel and energy production are to be further expanded and the production of coal, oil and gas is planned to reach 780-800 million tons, 630-640 million tons and 835-850 billion cu m, respectively, in 1990. The share of nuclear electricity is to rise from about 10 per cent of total electricity generation in 1985, to 21 per cent in 1990.

Modernization and technical retooling of industrial branches are seen as important prerequisites for achieving the above targets. About one half of investment is to be channelled to the modernization and reconstruction of existing fixed assets. The volume of investment in machinery and equipment is to be doubled compared with 1981-1985, and the current rate of retirement of obsolete fixed assets is to be roughly doubled. Quality and technical requirements for engineering products should substantially increase. The modernization of engineering itself is to be provided for by substantial increases in the share of investment allocated to this branch in 1986-1990 (investments are planned to rise by 80 per cent over the average of the preceding five-year period).

In assessing medium-term industrial development prospects in eastern Europe and the Soviet Union, some constraints and uncertainties should also be kept in mind:

— the vulnerability of some east European countries to energy constraints could, if not dealt with, endanger industrial growth prospects;

— external forces may adversely affect industrial performance, especially in countries with a high foreign debt burden;

— the decline in industrial investment in the east European countries in recent years has slowed down the modernization of industrial fixed assets and could create capacity constraints in some branches.

3.4 INVESTMENT

In 1985, combined investments of eastern Europe and the Soviet Union rose somewhat faster than in 1984. A further acceleration is planned for 1986. Available five-year plan data indicate that the fall in investment levels recorded in most east European countries in 1981-1985 will be reversed in the five-year period up to 1990. In the Soviet Union, the growth of investment planned for 1986-1990 is similar to that recorded in 1981-1985. Subsection (i) below gives an overview of investment developments in eastern Europe and the Soviet Union in 1981-1985. Subsection (ii) examines changes in the supply of machinery and equipment relative to investment growth. Subsection (iii) shortly describes performance of the engineering branch—a main supplier of investment goods. Subsection (iv) details some aspects of investment policy and performance in 1981-1985, and subsection (v) summarizes investment plans for 1986 and for the five-year plan period 1986-1990.

(i) Overview of investment in 1981-1985

A recovery in east European investment, and a slight acceleration in the Soviet Union, appear to have pushed up investment growth in the seven countries as a whole in 1985 to the second highest rate achieved in the 1981-1985 plan period (table 3.4.1 and chart 3.4.1).[292] Investment growth in the seven countries taken together is estimated at 3 per cent, compared with a peak rate of 4.7 per cent in 1983 and 2 per cent in 1984.

As in previous years, individual country performance varied widely. *Bulgaria* appears to have reversed the continuous deceleration of investment growth since 1981. *Czechoslovakia* and the *German Democratic Republic* recorded substantial rises in 1985 which offset falls in 1984—though investment in both countries remains below its levels at the end of the previous five-year plan period. In *Hungary*, investment fell in absolute terms for the sixth successive year. In *Poland*, in contrast, investment continued its recent recovery, albeit more slowly. The growth rate in 1985 was only half the average of the previous two years, and the volume of investment was still 13 per cent below its level in 1980, and 30 per cent below the peak year of 1978. In *Romania*, an apparently strong upsurge in 1984 tailed off in 1985. In the *Soviet Union*, a slightly below-plan rise of 3 per cent reversed the deceleration which followed the previous growth peak of 1983.

Most countries set only modest investment growth targets for 1981-1985. In some, zero rates of growth or even slight falls were foreseen, and in none was the rate of increase planned for the five years above 4 per cent annually. Bulgaria and the Soviet Union exceeded their targets by considerable margins. In all other countries, investment in 1981-1985 fell below the plans. In Poland, which had no five-year plan, investment just kept pace with the interim targets for 1983-1985. Already modest five-year objectives were not met in Czechoslovakia and the German Democratic Republic, and were missed by a much bigger margin in Hungary. The shortfall in Romania amounted to some 18 per cent of the total volume planned for the five-year period.

In three countries, average investment levels in 1981-1985 were lower than in 1976-1980. In Czechoslovakia, the decline was only marginal, but it was 10 per cent in Hungary and over 30 per cent in Poland. A barely perceptible increase in the German Democratic Republic and a slightly bigger one (5 per cent) in Romania contrasts with the relatively large rises in Bulgaria and the Soviet Union—about 20 per cent in both cases.

The above developments show the degree to which a major policy reorientation, incorporated into the five-year plans for 1981-1985, was implemented. In fact, plans for 1976-1980 had already prescribed slower investment and also NMP growth. Investment was expected to absorb a roughly similar share of total resources. Only in the German Democratic Republic was a planned fall in the ratio of investment to net material product (the investment ratio) actually achieved (table 3.4.2). In contrast, the 1981-1985 five-year plans of all countries foresaw substantial declines in the investment ratio—by 1.5-5 percentage points. Moreover, the declines which actually occurred were similar to or greater than expected (4-6 percentage points) in most countries. The exception was Czechoslovakia, where the small actual rise in NMP led to a much bigger shortfall in percentage terms than in the case of investment. Even in Bulgaria and the Soviet Union some reduction in the ratio was achieved —though in both countries it was small and less than planned.

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[292] This assessment should be read with caution. In recent years, price changes for investment work have been larger and more frequent than previously. They are not always taken into account in the plan fulfilment reports of planning documents. Several countries publish preliminary data on latest developments and annual plans in current prices. Partly for this reason, investment growth performance in 1984 was overstated for some countries (Czechoslovakia, the German Democratic Republic) in the previous edition of this publication—(see United Nations Economic Commission for Europe, *Economic Survey of Europe of 1984-1985*, New York, 1985, p. 127). Moreover, two countries (Bulgaria, Romania), seem to have ceased publishing regular investment statistics in constant prices, starting with 1984. This means that difficulties in estimating performance in 1985 (or plans for 1986) are compounded by new uncertainties surrounding the base year for such calculations.

The following notes summarize how the relevant constant price data for 1985 and plan 1986 were estimated.

Bulgaria: Percentage changes in value for 1984, 1985 and 1986 (plan), based on published data in monetary units, were retained as volume indicators on the assumption of unchanged prices after 1983.

Czechoslovakia: Estimates in volume terms for 1985 and 1986 (plan) were communicated directly to the ECE secretariat.

German Democratic Republic: Data on the value of investment in 1985 at current prices were deflated to 1980 constant prices to obtain a growth rate roughly consistent with the estimated growth of accumulation; the latter was obtained as a residual from estimates of changes in NMP used and consumption. This residual is, in fact, net investment and the resulting estimate for gross investment must be considered very tentative. The estimate for 1986 (plan) is the percentage change implied by the official projection for 1986 (apparently in 1985 prices) over the official current price estimate for 1985 published in the plan fullfilment report.

Hungary: 1985 is estimated from data at current prices (increase 2.2 per cent) on the assumption of price increases of 5 per cent. For 1986 (plan), the estimate is based on an official projection of 5.5-7.1 per cent at current prices and the assumption of an offsetting price increase. Current price plan data for 1981-1985 and 1986-1990 were recalculated on the assumption of a 5 per cent annual price rise for investment work.

Romania: As for Bulgaria.

TABLE 3.4.1

Gross fixed capital formation 1976-1985 and plans, 1981-1990
(*Annual percentage changes*)[a]

	1976-1980	1981-1985	1983	1984	1985	Plan 1986	Plan 1981-1985	Plan 1986-1990
Bulgaria	4.1	4.7	0.7	0.3*	2*	11.6*	0.9	7.3[b]
Czechoslovakia	4.1	−2.3	0.6	−4.2	5.5*	0.8*	−1.7	3.1
German Dem. Rep.	4.7	−0.9	–	−5.0	4.5*	1.8*	0.7	..
Hungary	3.8	−3.3	−3.4	3.7	−3	–	–	1.8*
Poland	−0.4	−0.8	9.4	11.4	5	4.2	..	4
Romania	9.7	−2.1	2.4	6.0*	1.6	7	4.4	2.2
Total eastern Europe	4.1*	−2.9*	2.3*	2.3*	3.4*	4*	1.5*[c]	..
Soviet Union	3.9	3.8	5.6	1.9	3	7.6	1.6	3.9
Total eastern Europe and the Soviet Union	4.0*	1.7*	4.7*	2.0*	3*	6.6*	1.6*[c]	..

Source: National statistics, plan documents and plan fulfilment reports.

Note: Data for Bulgaria and the German Democratic Republic are at 1980 prices, for Czechoslovakia at 1977 prices, for Hungary and Romania at 1981 prices, for Poland at 1982 prices, and for the Soviet Union at (assumed) 1976 prices. These prices bases are adhered to in the following tables except where otherwise stated.

[a] Both actual and planned figures for five-year periods shown are geometrical average rates based on the final year of the previous five-year period. Hence they differ from those shown in table 3.1.5 and in Appendix table B.8. Where five-year plan targets were not broken down for individual years, investment growth over 1981-1985 and 1986-1990 was calculated by assuming constant annual rates over the period. Where a range of figures was given for a plan target, the mid-point was used.

[b] At current prices.

[c] Excluding Poland.

TABLE 3.4.2

Investment ratios 1976-1985 and implied plans, 1981-1990

	1976-1981	1981-1985	1983	1984	1985	Plan 1986	Plan 1981-1985	Plan 1986-1990
Investment ratios[a]								
Bulgaria	35.4	34.4	34.7	33.3	33.3	35.8	31.2	36.4
Czechoslovakia	33.7	29.9	30.3	28.1	28.7	28.0	29.4	28.4
German Dem. Rep.	30.6	25.0	25.2	22.7	22.7	22.1	25.7	..
Hungary	37.2	31.0	31.1	29.3	28.7	28.0	33.1	27.4
Poland	30.7	24.6	23.8	25.2	25.6	25.9	..	26.5
Romania	41.3	36.4	36.4	35.9	34.4	33.2	39.8	29.0
Soviet Union[b]	30.3	29.8	30.1	29.8	29.6	30.7	28.3	29.7

Source: As for table 4.4.1.

[a] Gross fixed capital formation as a percentage of NMP produced.

[b] All *plan* data are based on NMP used.

There is, of course, no short-term causal relationship between the investment ratio and NMP growth. Though constraints on overall output growth may affect the share (or level) of investment, they need not necessarily do so, and fast output growth—as in the German Democratic Republic—is not always accompanied by rising investment. Country development patterns in 1981-1985, and particularly the movement of the investment ratio itself in relation to output growth, illustrate this in 1981-1985. In this respect the seven countries concerned fall into three groups. The *German Democratic Republic* recorded one of the highest NMP growth rates of the area in 1981-1985. Though NMP growth was slightly lower than planned, the investment ratio fell by slightly more than foreseen. This combination was unique in the area. In Bulgaria and the Soviet Union, NMP growth rates were also buoyant. However, investment spending rose at approximately double the rates planned in both countries. The investment ratios in these two countries were on average 3 1/2 and 1 1/2 percentage points respectively higher than anticipated.

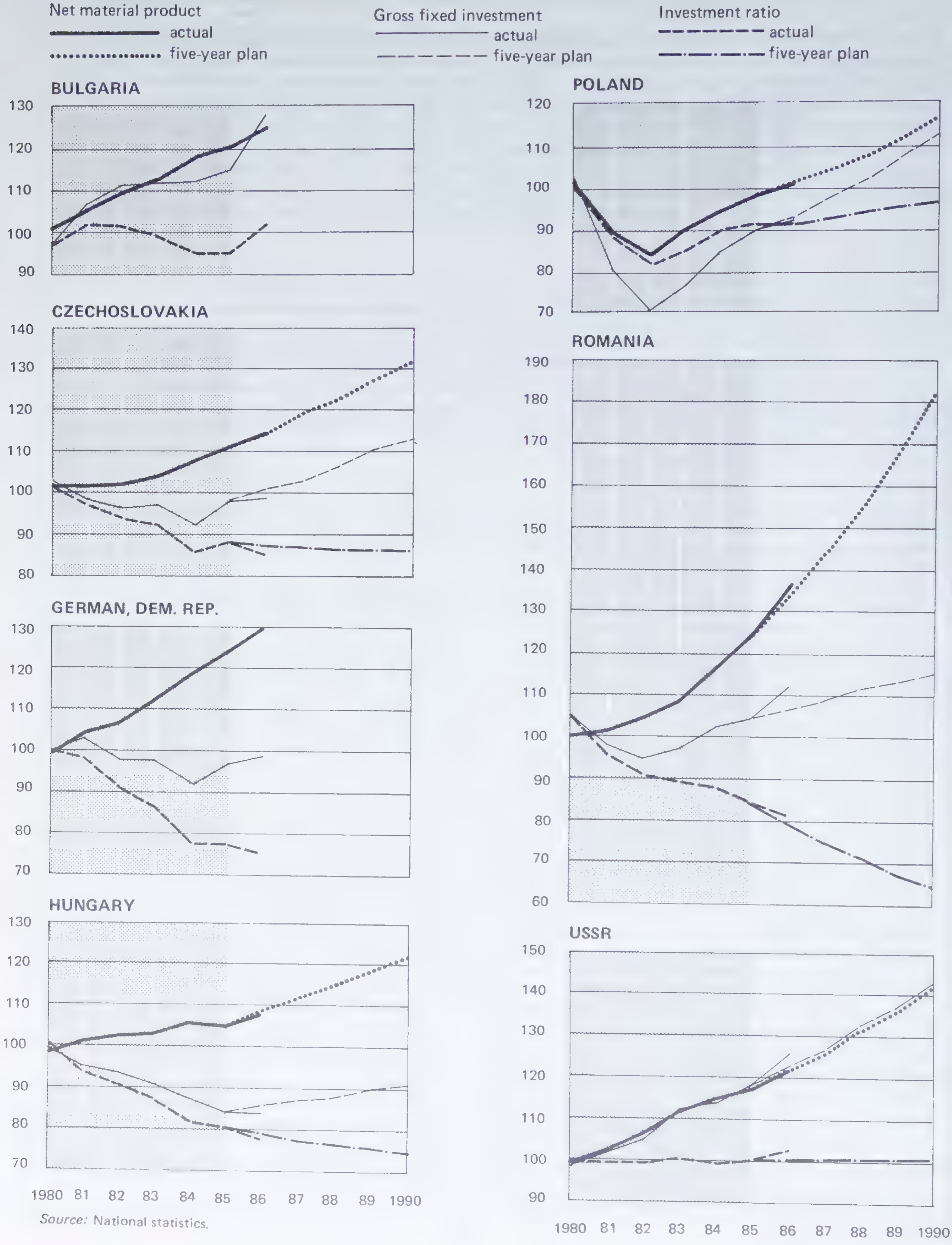
In the third group of countries (Czechoslovakia, Hungary, Poland and Romania), NMP growth was planned at rates substantially lower than in 1976-1980. But targets were underfulfilled by margins of 25-40 per cent. The shortfall was biggest in Romania (though it also recorded one of the highest rates of NMP increase in the area). In Poland, which in fact published no plan target, the level of NMP produced declined by 15 per cent between 1980 and 1985. Though in all four countries the investment ratio fell by up to 6 percentage points between 1976-1980 and 1981-1985, the downward movement was scarcely bigger than in the German Democratic Republic.

A detailed examination of the changing relationship between NMP growth and the main domestic demand components is contained in section 3.7 below. Its findings confirm the movements in investment ratios summarized above, and indicate that in most east European countries the burden of economic readjustment sparked off by unfavourable terms of trade movements and the need to pay off accumulated debt fell largely

CHART 3.4.1

Changes in level of NMP, gross fixed capital formation, and investment ratio

(Indices, 1978–1982 = 100)



Source: National statistics.

upon the investment sector. In Bulgaria, where imports and balance of payments adjustment policies were implemented at an early stage, investment was affected much less than in other east European countries in 1981-1985. Investment growth was also buoyant in the Soviet Union, which made substantial terms of trade gains in the period reviewed and where foreign debt considerations were less significant.

These patterns also illustrate the different incidence on individual countries of the changes in the world economic climate. The experience of the three groups suggests that, in the case of the German Democratic Republic, these changes—combined with much more vigorous action to improve the efficiency with which investment and fixed assets were used—affected primarily plans for investment rather than output growth in 1981-1985. In the Soviet Union and Bulgaria, they did not greatly affect either. In the other four countries, output and investment plans were both radically modified.

(ii) The supply of investment goods

There can be no doubt that changes in trade policies considerably reduced the scope for investment activity in all countries of eastern Europe. As noted above, all the six countries concerned have attempted to expand exports and cut imports as a direct response to balance of payments constraints. These policies bore particularly heavily upon the *investment goods sector of trade*: its share in total exports rose, and its share in total imports fell, in all east European countries (table 3.4.3). Investment goods thus proved to be one of the most easily exportable classes of east European exports, and the import category most readily dispensed with in the short term. In Bulgaria, the movement began earlier and affected developments in 1981-1985 less than in the other five countries. In the Soviet Union, the opposite occurred: the share of investment goods in total exports declined while their share in total imports increased.

TABLE 3.4.3

Share of investment goods imports levels in the foreign trade of eastern Europe and the Soviet Union

	Imports			*Exports*		
	1975	*1980*	*1983*	*1975*	*1980*	*1983*
Bulgaria	44	36	34	40	42	48
Czechoslovakia	37	36	34	49	51	54
German Democratic Republic	32	31	30	51	56	46
Hungary	22	21	19	30	35	32
Poland	40	33	27	36	35	44
Romania	35	25	21	28	28	29
Eastern Europe	35	30	28	42	42	44
Soviet Union	38	36	41	17	14	12
Eastern Europe and the Soviet Union	36	34	34	31	29	28

Source: ECE secretariat estimates based on national statistics

Note: A description of the statistics on which this table is based is given in section 4.5 below

Some rise in the level of Soviet investment goods exports did take place between 1975 and 1983 but it was swamped by the rise of oil exports. Most of the rise reflected higher exports to destinations other than eastern Europe and the industrialized market economies. The share of investment goods in total Soviet imports rose sharply—in imports both from eastern Europe and from the rest of the world. In the former case they reflect the east European countries' efforts to raise exports to the Soviet Union as oil prices rose, and in the latter the buoyancy of convertible currency earnings from sales of fuel to western countries.

The extent to which east European investment was squeezed by lower availabilities of investment goods can be measured by changes in the balance of trade in investment goods after 1975. The net east European deficit on investment goods trade relative to 1975 declined in current dollar terms by about $6 billion up to 1980, and by $15 billion up to 1983. These figures were equivalent to 25 and 60 per cent of actual east European investment goods imports from all suppliers in the two years considered. The Soviet Union's deficit, on the contrary, rose after 1975 by over $5 billion to 1980, and by nearly $14 billion up to 1983—equivalent to 68 per cent of its actual level of investment goods imports in the later year.

It would be misleading to attribute changes in investment solely to lack of investment goods imports—though they account for a high share of machinery and equipment investment in some east European countries. In the German Democratic Republic, the fall in the investment ratio was not due primarily to constraints on domestic or imported investment goods supplies. It reflected rather the continuation of a determined effort, already apparent in 1976-1980 (when, as noted earlier, it was the only one of the seven countries to achieve a planned fall in the investment ratio) to subject investment projects to stricter scrutiny and to require more efficient use of existing capital stocks. The success of the latter policy is apparent from tables 3.8.2 and 3.8.5 below, which show that capital productivity declined at considerably lower rates than in the other countries of the region. The rate of decline stabilized between 1976-1980 and 1981-1984, and capital productivity even rose slightly in 1984-1985.

The above balance of trade calculations also underlines the greater freedom of manoeuvre enjoyed by the Soviet Union. Investment in 1981-1985 rose almost as fast as in 1976-1980. Soviet imports of investment goods from eastern Europe and from the rest of the world were both buoyant—and indeed, uniquely among the seven countries, rose at substantially faster rates than in the previous five-year period. The country was thus able to sustain unchanged rates of investment growth despite some deceleration in the rate of growth of its domestic engineering output (table 3.4.4). Its relative freedom from imported supply constraints, due to terms-of-trade gains between the intital and final years under review, enabled both output and investment growth to proceed at planned and above-plan rates, respectively. However, NMP growth continues to be largely "extensive" with regard to capital inputs. The decline in capital productivity decelerated only marginally in 1981-1984 compared with 1976-1980.

In Bulgaria, which also exceeded its investment plans, output of domestic investment goods supplies—the engineering industry in particular—rose by as much as double the rates recorded in any other east European country in 1981-1984 (table 3.4.4). Moreover, Bulgaria's total import volume rose between 1980 and 1984, whereas it declined in the other east European countries. Thus the level of investment goods imports, despite their declining share of total imports, was maintained. Due to Bulgaria's relatively buoyant investment performance in 1981-1984, additions to fixed assets were only slightly smaller than in 1976-1980. Little progress appears to have been made in improving the efficiency with which they were used—and capital productivity declines were among the highest in the area.

TABLE 3.4.4

Gross fixed capital formation: selected indicators, 1976-1985
(Annual percentage changes and per cent of total)

	1976-1980	*1981-1984*	*1982*	*1983*	*1984*	*1985*
Bulgaria						
Machinery and equipment investment	1.5	6.8	7.6	0.8	−0.9	..
— per cent of total	33.5	35.3	35.7	35.7	35.3	..
Engineering output	9.1	8.5	8.2	9.4	9.3	12.3
Machinery and equipment imports [a]	−2.5	9.0	7.9	6.0	4.5	..
Construction investment	5.5	2.4	2.7	0.7	1.0	..
Czechoslovakia						
Machinery and equipment investment	5.0	−2.2	0.7	−0.6	−1.4	..
— per cent of total	40.2	41.5	41.7	41.2	42.4	..
Engineering output	6.7	4.7	3.2	5.0	6.3	6*
Machinery and equipment imports [a]	2.1	3.2	1.1	6.6	11.0	..
Construction investment	1.9	−3.0	−4.3	1.4	−6.2	..
German Democratic Republic						
Machinery and equipment investment	3.0	−0.6	−8.8	5.9	−5.5	..
— per cent of total	47.0	48.9	47.1	49.9	49.6	..
Engineering output	6.9	5.8	4.9	5.7	5.4	..
Machinery and equipment imports [a]	−0.6	1.2	−5.4	6.6	−4.1	..
Construction investment	3.9	−3.1	−1.7	−5.3	−4.4	..
Hungary						
Machinery and equipment investment	−8.6	1.1	9.9	0.3	−1.1	..
— per cent of total	42.9	43.1	43.9	43.4	43.8	..
Engineering output	3.1	3.6	4.6	1.9	2.9	3.7
Machinery and equipment imports [a]	3.1	−1.7	3.9	0.5	−2.5	..
Construction investment	−3.1	−2.7	−0.4	2.4	−3.0	..
Poland						
Machinery and equipment investment	−2.0	−8.9	−26.7	6.1	14.9	..
— per cent of total	37.1	31.8	30.5	29.6	30.5	..
Engineering output	6.9	−0.1	−0.9	6.9	7.1	8*
Machinery and equipment imports [a]	−2.8	−4.9	−23.3	11.0	31.4	..
Construction investment	−2.9	−2.2	−3.7	10.8	10.0	..
Romania						
Machinery and equipment investment	11.6	−0.2	−1.6	3.7	8.1	..
— per cent of total	45.3	43.4	43.2	42.0	42.8	..
Engineering output	12.6	5.0	3.5	5.5	8.8	3*
Machinery and equipment imports [a]	2.4	−8.5	−26.9	−11.6	5.2	..
Construction investment	6.1	4.3	8.8	8.9	4.6	..
Soviet Union						
Machinery and equipment investment	6.5	4.5	4.7	6.8	1.4	..
— per cent of total	36.2	38.9	38.9	39.3	39.1	..
Engineering output	8.2	6.0	4.8	6.3	7.0	7
Machinery and equipment imports [a]	4.7	7.9	16.5	13.4	0.5	..
Construction investment	1.8	3.3	2.9	5.0	2.3	..

Source: National statistics and ECE secretariat estimates.

Note: 1976-1980 and 1981-1984: average annual compound growth rates between the final year of period shown and the final year of the previous period.

[a] Constant prices, in 1975 US dollars.

The other countries of eastern Europe present a marked contrast. As noted, bigger than planned falls in investment ratios were associated with generally low and below-plan output growth. Growth rates of domestic output of machinery and equipment fell much more sharply than in either Bulgaria or the German Democratic Republic between 1980 and 1984. The level of engineering output declined in Poland. The volume of machinery and equipment imports either fell or increased only slowly in most of them. The supply constraints, while apparently braking investment, were not offset by gains in the efficiency with which the existing stock of fixed assets was used. The decline in capital productivity in Czechoslovakia and Romania indeed accelerated between 1976-1980 and 1981-1984.

(iii) The engineering industry — a key supplier of investment goods

The previous edition of this publication contained a short survey of the performance of the construction sector. The following paragraphs offer a similar brief scrutiny of developments in the engineering industry—the other main supplier of the investment complex.

Since the engineering branch is the principal source of new technology for the modernization and technical re-equipment of the economy, it has been given a high output growth priority in plans and policy statements regarding the intensification of economic growth. In 1981-1984, engineering accounted for 20-30 per cent of gross industrial output in most countries of the region (Panel A of table 3.4.5). The exceptions were Czechoslovakia (over one third) and the German Democratic Republic (over 40 per cent). Its share in total industrial output rose in all countries by between 1 and 7 percentage points between 1975 and 1984. The rise was smallest in Hungary and Poland, (1-4 percentage points) and biggest in Bulgaria, the German Democratic Republic and the Soviet Union (7 percentage points).

Besides quantitative rises in the supply of engineering goods, the intensification process also entails qualitative improvements. The new machinery and equipment produced is expected to be more productive and also, in current conditions of input shortages, to be more economical in the use of labour, fuel and other resources. The direct contribution of the engineering branch to this aspect of the intensification policy cannot be assessed directly.

However, an important determinant of the engineering branch's capacity to fullfil these requirements is the speed at which new technology has been provided for the modernization of engineering itself. In the light of the apparently slow rate of industrial innovation reported by many of the countries in question, it is perhaps significant that rises in engineering's share of industrial investment since 1975 have occurred only in four countries—Bulgaria, Czechoslovakia, the German Democratic Republic and Romania (table 3.4.5). Moreover, sustained rises, as shown by changes in five-year averages between 1976-1980 and 1981-1984 (table 3.4.8 below), were only achieved in Bulgaria and the German Democratic Republic. These were two of the countries which recorded good overall growth performance in 1981-1985.

With one exception, therefore, a stagnating or decreasing share of engineering in total industrial investment has closely paralleled the deceleration in economic growth in 1981-1985 compared with 1976-1980. The exception is the Soviet Union, where NMP growth objectives were satisfactory, but the engineering branch's share in total industrial investment stagnated. This reflected the big increase in the share of the fuel industry in total investment since 1975. As noted earlier, the Soviet Union had more leeway than the other countries under review to import technology from eastern Europe and from the developed market economies. In the other countries, where NMP performance was weak and plan shortfalls quite marked, the share of engineering either rose slowly (Czechoslovakia) or fell sharply (Hungary and Poland).

Relationships between absolute levels of employment, fixed assets and output (Panel B of table 3.4.5) show some interesting features of the engineering branch relative to averages for industry as a whole.[293] While output per unit of fixed assets in engineering is higher than the average of all branches, both capital intensity (fixed assets per worker) and labour productivity (ouput per worker) are lower. These indicators are not easy to interpret, though their apparent uniformity throughout the region is, in the first instance, worthy of note.

Studies on the relative levels of capital and labour intensity and factor productivities of different industrial branches in western countries have focused on differences in the levels of skill and qualification of the labour force. One study shows that, in the United States, the different engineering sub-branches (no data are given for the engineering branch as a whole) tend to be characterized by average or higher than average levels of skill intensity per employee[294] and also by relatively low levels of capital intensity (important exceptions in the latter respect are the transportation and instrument-making sub-branches). However, output per worker is either close to, or usually considerably higher, than the average for all branches of manufacturing.

In contrast, the ratios of labour productivity levels in engineering relative to the industrial average presented in table 3.4.5. show that gross output per employee was, in fact, considerably lower than the industrial average in all of the seven countries reviewed in 1975. It also shows that significant increases in the ratio have occurred in all countries in 1975-1984—though the change was much smaller in Hungary than in the other six countries. The data show that the engineering branch capital intensities—as in the US—are also lower than for industry as a whole. In addition, they have remained almost stable since 1975. However, the discrepancy is a good deal bigger than in the US example. The slow relative rise in capital intensity was to be expected, given the falling share of engineering in total industrial investment, already mentioned, in most of the seven countries. This could indicate opportunities for substituting capital for labour at higher rates in future.

Only limited statistics concerning levels of skills of the workforce are available for eastern Europe and the Soviet Union, and no direct comparisons can be made with western data. As also shown by table 3.4.5, the share of engineering in total industrial employment has risen in all countries but Poland since 1975—though at lower rates in 1981-1984. This might also suggest that there is room for improving the level of skills rather than increasing the number of employees.

In short, capital intensity and output levels per employee in the seven countries' engineering branches have been moving towards levels which are, relative to the rest of industry, more characteristic of other highly industrialized countries. Rates of labour productivity growth in engineering were in fact usually 50-100 per cent higher than in industry as a whole over the periods reviewed (tables 3.8.1 and 3.8.2 below) though capital intensities have changed more slowly.

Engineering compares favourably with the industrial average in other respects also. Capital productivity has declined less than in industry as a whole. One reason for this is that the age structure of fixed assets in the engineering industry—as judged by the share of fixed assets under five years old in the branch total—is considerably more favourable than the average for industry in all countries but Hungary. The retirement of obsolete fixed assets in engineering has also generally been higher than in industry as a whole (except in the Soviet Union).

The summary picture presented above suggests some tentative conclusions. First, the engineering branch in the seven countries reviewed appears to be operating increasingly in a way typical of a modern, high-technology industry. Nevertheless, there seems to be some degree of overmanning, and an unduly low level of, and expansion in, capital equipment per worker. Second, the fall in engineering's share of industrial investment

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[293] These and later comments concerning the productivity, age structure and rates of retirements of fixed assets exclude the German Democratic Republic and Romania, which do not publish industrial branch data on fixed assets.

[294] Hal B. Lary: *Imports of Manufactures from Less Developed Countries*, National Bureau of Economic Research, Columbia University Press, New York, 1968, pp. 21, and 27-28.

TABLE 3.4.5

Selected indicators of the engineering branch relative to total industry
(*At constant prices*)

	Output			*Employment*			*Investment*		
	1975	*1980*	*1984*	*1975*	*1980*	*1984*	*1975*	*1980*	*1984*
A. *Share of engineering in gross industrial total output, employment and investment (total industry = 100)*									
Bulgaria	19.9	23.2	27.1	25.7	27.0	27.3	20.1	26.3	31.4
Czechoslovakia	27.7	30.6	33.4	38.9	39.8	40.4	21.3	22.4	23.0
German Democratic Republic	34.2	38.6	41.3	42.5	43.1	43.9	22.7	25.4	25.2
Hungary	22.2	22.6	23.1	31.6	32.0	31.7	16.5	17.3	15.0
Poland	21.2	24.3	25.1	32.8	34.3	32.6	24.2	22.4	22.9
Romania	25.7	30.3	31.9	32.6	35.6	36.2	18.6	28.4	19.8
Soviet Union	24.0	28.7	31.1	40.6	41.8	42.2	25.1	25.0	24.8
	Capital Productivity [a]			*Labour productivity* [b]			*Capital intensity* [c]		
	1975	*1980*	*1984*	*1975*	*1980*	*1984*	*1975*	*1980*	*1984*
B. *Capital and labour productivity and capital intensity levels in engineering (total industry = 100)*									
Bulgaria	112	137	141	77	86	96	69	63	68
Czechoslovakia	145	157	159	71	77	83	49	49	52
German Democratic Republic	..	..	..	69	74	78	..	..	..
Hungary	122	116	125	70	69	73	58	59	59
Poland	105	110	113	65	71	77	61	64	68
Romania	..	..	..	79	85	90	..	..	..
Soviet Union	110	121	127	59	69	74	54	57	58

Source: National statistics.

[a] Output per unit of fixed assets.

[b] Output per employee.

[c] Fixed assets per employee.

—soon to be reversed in some countries according to the five-year plans for 1986-1990—is at least empirically associated with overall (NMP) growth performance during the last five years. More importantly, it is anomalous that the branch which should itself be the motor of technical change seems to be falling behind others in introducing new technology into its own productive activity. A similar picture is suggested by engineering's share of investment goods imports. Bulgaria and the German Democratic Republic again stand out as exceptions in that they are the only two countries where the share of investment goods for the engineering branch in total industrial investment goods imports rose between 1976-1980 and 1981-1983 (table 4.5.4 below).

(iv) Some aspects of investment policy and performance in 1981-1985

(a) Cutting lead times

Two aspects of improving investment efficiency have been regularly analysed in this publication. The first involves increasing the degree of concentration of investment by giving priority attention to the completion of existing projects. The second involves using investment funds to modernize, reconstruct and extend existing plant rather than to build new plant. Improvements in both areas are important prerequisites for reducing investment lead times.

Most countries here examined made progress in reducing the *ratio of new fixed assets brought into operation to investment spending* between 1976-1980 and 1981-1984 (table 3.4.6). The only exception is Poland, where the ratio fell to very low levels in the early years of the previous decade. In Poland and in several other countries, the factors which brought about a decline in new investment may also have slowed down the completion of existing projects in the early 1980s; the ratios did not begin to increase until investment began to pick up. Hungary and Romania are the countries where most progress was made in improving the ratio (it rose by 9 and 12 points respectively between 1976-1980 and 1981-1985). In this way, Hungary has to some extent offset the effects of the 6-year decline in investment levels. It is, moreover, the only country where the total volume of unfinished construction has actually fallen in more than one year; (the ratio exceeded 100 in 1983 and 1984)—though it also reached 100 per cent or more in the economy as a whole and in industry in Czechoslovakia in 1984 and in the German Democratic Republic on average for 1981-1984. In Romania, falls in the ratio preceded investment cutbacks, suggesting that new projects continued to be put in hand in the late 1970s even as the rate of completions fell away.

In general, it seems that the investment restrictions imposed by most countries of eastern Europe have enabled some of the completions backlog to be liquidated. The evidence of the last two or three years points to definite progress in most countries. It is, however, somewhat less clear for Bulgaria and the Soviet Union, where investment constraints have been less pressing.

Policy in all countries under review has been directed towards *cutting down the number of starts* by concentrating resources on the termination of existing projects, and on the extension and modernization of existing plant. No direct information on the number of new project starts is available for any country. However, indirect indicators are changes in the volume of investment itself and the share of machinery and equipment in total investment spending. The falling levels of investment expenditures in most countries since 1980 have reinforced policy

TABLE 3.4.6

Fixed capital brought into operation 1976-1984
(Per cent of gross fixed capital formation)

	Total economy	Industry	Total economy	Industry	Total economy	Industry
	Bulgaria [a]		*Czechoslovakia*		*German Dem. Rep.*	
1976-1980	88.4	83.8	94.2	93.9	92.5	89.9
1981-1984	90.3	85.2	96.4	98.2	101.0	98.1
1980	87.0	95.1	97.4	94.7	94.1	92.5
1981	86.7	78.1	96.9	99.1	93.8	90.7
1982	94.6	96.7	91.7	90.5	105.9	105.9
1983	92.6	87.2	97.2	97.8	90.3	78.4
1984	87.1	78.5	100.0	105.8	115.2	119.2
	Hungary		*Poland* [a]		*Romania*	
1976-1980	89.1	84.2	83.9	83.1	82.4	75.8
1981-1984	97.9	97.7	81.4	74.9	94.6 [a]	91.0 [a]
1980	94.1	87.4	81.4	76.6	82.9	77.3
1981	94.0	90.7	89.8	78.9	89.4	85.6
1982	92.1	84.4	71.2	70.0	93.7	95.6
1983	102.3	106.2	81.8	73.5	96.7	96.4
1984	103.9	110.3	85.1	77.8	98.0 [a]	89.6 [a]
	Soviet Union					
1976-1980	93.0	90.0				
1981-1984	96.5	94.9				
1980	98.7	99.9				
1981	95.6	92.7				
1982	97.0	95.5				
1983	97.3	94.4				
1984	96.1	96.8				

Source: National statistics.

[a] Current prices.

to reduce new starts. The extent to which such a policy has succeeded is also likely to be reflected in an increase in the share of machinery and investment in total investment spending, since the final stages of a project are considerably more equipment-intensive than the initial work.

All countries but Poland and Romania showed increases in the share of *machinery and equipment* in total investment spending between 1976-1980 and 1981-1985 (table 3.4.4). This is related to the fact that both the countries mentioned imposed particularly big cutbacks in imports of investment goods in the early 1980s. The share of machinery and equipment as a whole, and also the share of imported machinery and equipment, in total investment expenditures has not only fallen sharply since 1976-1980 but shows no sign of rising in the latest years for which data are available. Apart from Poland, the share of machinery and equipment as a whole is lowest in Bulgaria and the Soviet Union, and highest in the German Democratic Republic. The contrast offered by performance in the latter country again points to a possible link between success in carrying through policies to increase the efficiency of the investment process and restrictions on the growth of investment spending.

Of the countries under review, only the Soviet Union publishes direct data which can be used to assess progress in *reducing the share of new investment* in total investment expenditures. This is the corollary of raising the share of investment for extending and modernizing existing plant. In fact, the share of new investment appears to have grown in recent years—from 36 per cent in 1980 to 37 per cent in 1984 in the material sphere of the economy (no data are available for total investment).[295] The movement is likely to have been somewhat more favourable in most countries of eastern Europe, where investment has declined in absolute terms since 1980.

(b) Changes in the sector and branch share of investment

The share of the *material sphere* in total investment has remained very stable in most countries of the region (in 1976-1984) (table 3.4.7). The big exception is Poland where it fell by 6 percentage points between the two sub-periods shown, and had not begun to rise as late as 1984. The movement may have reflected the smaller share of imported machinery and equipment relative to construction in non-material sphere investment, which could thus have been maintained more easily at a time of import restriction. A second exception is Romania, where, on the contrary, readjustment policies in 1981-1984 appear to have involved directing the maximum share of a smaller volume of investment resources towards productive activity between 1980 and 1984. The *non-material sphere's* share in total Romanian investment is now less than half that in the other six countries reviewed here.

Within the material sphere, *industry's* share remained constant in most countries between 1976-1980 and 1981-1984. The exceptions are Bulgaria and the German Democratic Republic, where the already substantially increased shares of industry in total material sphere outlays were still rising in 1984.

These countries are the only two where the share of *agriculture* fell between 1976-1980 and 1981-1984. Unlike the German Democratic Republic, however, Bulgaria's agricultural output growth was weak between 1980 and 1984, and its agricultural investment expenditures might need to rise in the next few years if the country's susceptibility to adverse weather conditions is to be reduced. The other countries of eastern Europe, and to a

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[295] *Narodnoye khozyaistvo SSSR v 1984 g.*, Finansy i statistika, Moscow, 1985, p. 380.

TABLE 3.4.7

Gross fixed investment by sector in 1975-1984
(Per cent of total investment)

	1976-1980	*1981-1984*	*1975*	*1980*	*1984*
Bulgaria					
Material sphere = 100					
— Industry	59.3	63.2	56.1	61.6	64.6
— Construction	4.0	4.2	5.2	3.6	4.4
— Agriculture	13.9	11.2	15.1	13.4	10.7
— Transport and communications	17.3	16.1	18.4	16.3	15.2
— Trade etc.	4.8	4.6	4.6	4.5	4.3
— Other	0.6	0.7	0.7	0.7	0.8
Total economy = 100					
— Material sphere	71.2	71.0	71.9	70.4	71.1
— Non-material sphere	28.8	29.0	28.1	29.6	28.9
Czechoslovakia					
Material sphere = 100					
— Industry	58.4	57.7	56.5	59.5	55.9
— Construction	7.9	9.5	6.5	10.3	9.2
— Agriculture	17.7	19.5	19.6	16.1	21.8
— Transport and communications [a]	9.1	7.8	9.4	8.2	8.2
— Trade etc.	6.5	5.2	7.6	5.6	4.7
— Other	0.5	0.3	0.4	0.4	0.3
Total economy = 100					
— Material sphere	64.9	68.4	62.6	66.5	68.6
— Non-material sphere	35.1	31.6	37.4	33.5	31.4
German Democratic Republic					
Material sphere = 100					
— Industry	65.3	72.2	61.6	68.8	73.1
— Construction	4.2	2.2	4.4	3.3	1.8
— Agriculture	13.4	11.6	14.9	12.5	10.4
— Transport and communications	11.3	10.0	13.2	10.8	10.2
— Trade etc.	4.6	3.2	4.6	3.9	3.4
— Other	1.2	0.9	1.2	0.8	1.1
Total economy = 100					
— Material sphere	78.1	78.0	78.8	78.2	77.7
— Non-material sphere	21.9	22.0	21.2	21.8	22.3
Hungary					
Material sphere = 100					
— Industry	47.7	46.2	43.3	45.8	48.3
— Construction	3.7	2.3	2.9	3.4	2.0
— Agriculture	18.9	19.6	21.0	18.1	17.8
— Transport and communications	16.6	16.3	19.4	17.8	15.7
— Trade etc.	5.7	6.5	6.4	6.7	6.4
— Other	7.4	9.0	7.1	8.2	9.7
Total economy = 100					
— Material sphere	72.1	70.1	70.7	70.9	67.5
— Non-material sphere	27.9	29.9	29.3	29.1	32.5
Poland					
Material sphere = 100					
— Industry	49.5	44.3	52.7	46.0	44.1
— Construction	6.4	3.5	6.3	6.0	3.5
— Agriculture	25.1	29.2	21.5	26.4	27.1
— Transport and communications	11.5	10.5	13.4	13.6	11.6
— Trade etc.	2.7	3.8	3.0	2.6	4.0
— Other	4.9	8.8	3.1	5.5	9.7
Total economy = 100					
— Material sphere	71.1	65.0	75.0	67.8	65.1
— Non-material sphere	28.9	35.0	25.0	32.2	34.9
Romania					
Material sphere = 100					
— Industry	59.6	59.3	58.8	61.1	59.9
— Construction	7.0	4.6	5.5	5.4	4.8
— Agriculture	17.0	19.8	17.7	16.3	20.5
— Transport and communications	12.9	13.6	13.2	14.5	12.5
— Trade etc.	3.5	2.6	4.8	2.7	2.2
— Other					

TABLE 3.4.7 (continued)

	1976-1980	1981-1984	1982	1983	1984
Total economy = 100					
— Material sphere	81.1	83.1	79.9	81.8	83.3
— Non-material sphere	18.9	16.1	20.1	18.2	16.7
Soviet Union					
Material sphere = 100					
— Industry	47.6	49.1	47.9	47.8	48.3
— Construction	7.4	7.3	7.2	7.5	7.1
— Agriculture	27.1	26.4	28.2	[illegible]	24.8
— Transport and communications a	16.1	16.7	17.2	16.2	17.3
— Trade etc.					
— Other	1.4	4.0	3.3	3.4	4.1
Total economy = 100					
— Material sphere	74.2	73.9	[illegible]	[illegible]	[illegible]
— Non-material sphere	25.8	26.1	[illegible]	[illegible]	[illegible]

Source: National statistics.

a Unlike other countries, passenger transport and communications are included in the non-material sphere by Czechoslovakia and the Soviet Union.

lesser extent the Soviet Union, have made some progress in stabilizing agricultural output growth since 1980. Although in 1981-1984, the farm sector still recorded an average of 20-30 per cent of material sphere investment outlays in most countries (excluding Bulgaria and the German Democratic Republic), its share began to fall away in recent years. Further falls appear to be a precondition for a substantial rise in industrial investment, given the stable or rising share still accounted for by transport and communications—the other large investing sector.

The sharp rise in the share of the energy and fuel branches in total industrial investment has been discussed in previous editions of this publication. *Energy*'s share appears to have stabilized or even declined in most countries in 1984, but it pushed up the average for 1981-1984 in Bulgaria, Hungary and Romania (table 3.4.8). The latter two countries, together with Czechoslovakia and the Soviet Union, also experienced further rises in the share of *fuel* investment.

The share of *fuel and energy* taken together in total industrial investment was substantially lower in Bulgaria and the German Democratic Republic than in the other five countries throughout the period, though the sudden jump in Bulgarian electricity generating plant in 1984 should be noted. Bulgaria, as the southernmost country of the area, has a climatic advantage tending to reduce its energy requirements for heating purposes. It also has only limited supplies of exploitable fossil fuels. In the German Democratic Republic, the share of fuels is somewhat understated compared with most of the other countries concerned, since oil refining—as also in Hungary—is classed under chemicals. In 1984 Bulgaria and the German Democratic Republic devoted 27 and 31 per cent of their industrial investment respectively to the energy and fuel branches combined. These shares are rather low compared with the other five countries, where it ranged between 36 per cent (Poland and the Soviet Union) and 41 per cent (Hungary and Romania).

The engineering industry, as noted earlier, accounted for a stable or declining share of industrial investment in 1981-1984 compared with 1976-1980, except in Bulgaria and the German Democratic Republic. There was no sign of any significant upturn in 1984, and its share even declined in some countries.

The energy, fuel and engineering branches accounted for the bulk of industrial investment in all countries of the region—[illegible] 60 per cent of the total except in the German Democratic Republic. This relatively low share in the latter country reflects the importance of its chemical industry (including oil refining), the share of which in total industrial investment is up to twice as high as in the other six countries. Investment in this industry has been particularly affected by adjustment policies since 1976-1980 in all countries, probably because of its high dependence on imported feedstocks (including non-petroleum-based feedstocks). The other branches affected have been the consumer-oriented branches—*wood* and *paper*, *textiles*, *other light industry* and *food*. With only a very few exceptions, these branches' investment shares were lower in 1981-1984 than in 1976-1980, though in Czechoslovakia, Romania and the Soviet Union there were signs of a modest upturn in 1984.

(v) Investment prospects for 1986 and 1986-1990

(a) Plans for 1986

Table 3.4.1 shows that a slight further upturn in investment spending is expected in eastern Europe in 1986. As noted earlier, the data shown in the table should be interpreted with some caution. On the one hand, the very big rise shown for *Bulgaria* is stated to be at current prices. Investment prices were stable in that country in 1982 and 1983, following big price increases in 1981. The possibility of further rises cannot be excluded in 1986. The planned upturn for *Romania*, concerning which there is some doubt as to whether the plan data are in current or constant prices, is also very large, but it is not inconsistent with the very fast planned rise in NMP produced.

In contrast, the plans for *Czechoslovakia* and the *German Democratic Republic*, though modest at 1-2 per cent in both cases, could conceal a marked recovery in investment spending which started in 1984-1985. The big rise recorded for 1985 may have been associated with lags carried over from 1984, when investment was [illegible]. The [illegible] for 1986 may [illegible] performance in 1985 overstates the under-[illegible].

[illegible]

TABLE 3.4.8

Industrial gross fixed investment by branch, 1975-1984 [a]

(Per cent of total industrial investment)

	Energy	*Fuel*	*Metallurgy*	*Engineering*	*Chemicals*	*Construction materials*	*Wood, paper*	*Textiles*	*Other light*	*Food*	*Other*	*Total*
Bulgaria [b]												
1976-1980	13.8	8.6	4.8	22.9	13.3	8.4	3.6	3.1	1.4	9.5	10.5	100
1981-1984	14.2	8.9*	6.5	32.0	9.5	4.1	3.3	2.2	1.6	6.1	11.5	100
1975	13.2	6.0	4.2	20.1	13.2	7.9	4.7	5.8	3.9	12.5	8.5	100
1980	13.8	9.5	6.3	26.3	9.4	8.3	3.5	2.0	1.4	8.2	11.4	100
1984	18.7	7.8*	6.4	31.4	8.7	3.0	3.0	1.8	1.5	6.1	11.5	100
Czechoslovakia												
1976-1980	15.0	11.3	10.3	22.1	8.1	4.7	6.1	3.9	3.5	7.2	7.7	100
1981-1984	15.1	15.0	8.1	22.1	7.1	3.3	6.6*	3.0	3.6	7.0	9.0	100
1975	14.1	9.2	8.6	21.3	9.1	6.0	5.3	4.3	3.8	7.7	10.6	100
1980	15.3	12.8	9.1	22.4	6.4	4.3	8.4	3.6	3.5	7.0	7.1	100
1984	12.7	15.6	8.2	23.0	7.4	3.4	4.4	3.1	4.3	8.2	9.7	100
German Democratic Republic												
1976-1980	22.9		9.0	24.8	18.5	3.5	..	3.3	7.2	7.1	5.6	100
1981-1984	22.1		12.7	26.4	16.6	2.5	..	2.6	7.0	5.3	4.8	100
1975	24.4		5.9	23.7	16.6	4.2	..	4.1	8.9	7.9	5.5	100
1980	22.8		10.7	25.0	18.1	3.6	..	2.9	6.1	5.4	5.3	100
1983	21.0		15.9	25.2	16.2	1.9	..	2.3	7.9	5.2	4.5	100
Hungary												
1976-1980	15.7	11.3	9.0	18.3	15.3	6.2	2.2	3.7	3.2	14.1	1.1	100
1981-1984	20.5	16.1	8.8	15.8	14.8	3.6	3.1	2.2	2.8	11.2	1.0	100
1975	14.1	10.6	6.5	16.5	20.2	6.6	4.0	4.4	3.5	12.5	1.1	100
1980	19.7	14.1	12.0	17.3	11.3	4.9	1.5	2.4	3.1	12.4	1.2	100
1984	21.4	19.1	8.0	15.0	14.4	3.5	2.8	1.8	2.5	10.9	0.6	100
Poland												
1976-1980	11.4	13.6	15.0	24.3	11.0	4.1	4.7	3.1	2.4	10.0	0.4	100
1981-1984	15.9	20.7	6.0	22.8	9.9	3.1	3.3	2.7	2.8	12.3	0.6	100
1975	8.0	12.3	16.6	24.2	9.1	6.6	4.6	4.7	2.4	11.2	0.4	100
1980	15.1	22.0	10.9	22.4	9.5	2.9	3.5	2.4	2.2	8.7	0.3	100
1984	15.9	19.0	5.9	22.9	10.2	3.6	3.3	3.4	3.1	11.9	0.7	100
Romania												
1976-1980	11.6	13.1	14.0	24.9	15.2	4.3	3.7	3.6	1.6	5.3	2.7	100
1981-1984	18.3	18.5	11.2	21.6	12.4	2.5	3.5	2.4	1.1	6.4	2.0	100
1975	14.2	14.4	14.1	18.6	14.6	4.6	5.0	3.3	1.7	6.7	2.9	100
1980	11.0	13.4	14.1	28.4	13.9	4.2	3.0	3.9	1.4	4.5	2.2	100
1984	21.2	20.3	10.9	19.8	10.5	1.9	3.8	1.9	1.0	6.5	2.2	100
Soviet Union												
1976-1980	9.1	20.8	6.2	25.0	9.9	4.2	4.3	2.9	1.0	6.5	10.2	100
1981-1984	9.0	26.2	5.9	24.6	7.7	3.9	3.5	3.8		6.2	9.3	100
1975	9.2	18.6	6.5	25.1	9.6	4.4	4.6	2.8	1.3	7.2	10.8	100
1980	9.5	23.1	5.9	25.0	8.4	4.0	3.8	3.0	0.8	6.5	10.1	100
1984	7.2	27.3	5.5	24.9	7.9	3.9	3.3	3.9		6.5	9.6	100

Source: National statistics.

[a] Though sector and branch entries have been standardized across countries to the extent possible, the following main differences in coverage should be noted: metallurgy excludes non-ferrous metallurgy in Bulgaria and the Soviet Union; fuel includes oil refining in the German Democratic Republic and Hungary; other light industry includes clothing, leather, furs and footwear in the Soviet Union; in the other countries, it also includes printing (except in Bulgaria), glass and ceramics (except in Hungary)

[b] Current prices.

In the *Soviet Union*, the investment acceleration foreseen for 1986 is much bigger than that already achieved in 1985, and nearly double the rate planned for eastern Europe. It also presents a marked acceleration over the average during 1981-1985.

As far as can be discerned at the present time, the higher investment growth targets for 1986 do not represent any radical departures from policies and performance in 1984-1985. However, some signs of change are apparent for Bulgaria and the Soviet Union. Both countries recorded much higher investment growth than planned in 1981-1985, and actual growth in investment spending was more buoyant than in the other countries. For 1986, both countries expect to allocate a bigger share of total resources to investment. The investment ratio will rise quite sharply in Bulgaria and by somewhat less in the Soviet Union (table 3.4.2 above). As noted earlier, the data for Bulgaria are in current prices, and the assumption that investment prices will not increase, which underlies the investment ratio estimate, may be false. In all other countries the investment ratio would remain roughly constant—in most, it would even fall slightly.

If these plan targets are maintained, investment ratios will have remained very stable over a three-year period, following the sharp falls registered in most countries in the years before 1984. This suggests that the lowest desired limit has now been attained.

(b) Plans for 1986-1990

Hungary adopted its five-year plan in December 1985. Most of the other countries concerned have published draft five-year plan guidelines. The exception is the German Democratic Republic, which had published no plans at the time of writing.

In the six countries for which details are available, the plans for 1986-1990 foresee a substantial reversal of the decline in investment levels which characterized 1981-1985 in most of them. A few uncertainties with regard to the interpretation of the investment growth statistics in the draft plans remain. Moreover, these plans have not yet been finally adopted in most countries. The information presented in the following paragraphs is thus subject to amendment and the interpretations offered should be considered tentative. Nevertheless, the prevailing impression is of a resumption of a progressive and steady investment effort. The plans appear to take account both of the need to hold investment within the limits imposed by the internal and external constraints which have developed since the late 1970s, and also of the urgent need to intensify the economic development process at an accelerating rate. The need is the more acute, since the investment process itself, the main vehicle for the introduction of new productivity-enhancing and resource-saving technologies, has been the sector on which the restrictive policies of the last five-year plan period have borne most heavily in most of the countries reviewed.

For *Bulgaria*, a doubt remains concerning the size of the investment effort foreseen for 1986-1990. As noted earlier, no investment data in constant prices have been published for years later than 1983. The new plan targets, which imply a very high 7 per cent annual rate of increase between 1985 and 1990, and a big rise in investment ratios to levels higher than in 1976-1980, is thus probably in current prices. In fact, most of the buoyancy in Bulgarian investment in 1981-1985 resulted from the big increases in 1981 and 1982, and a continuation of the more cautious policies since 1983 seems likely. However, NMP growth planned for 1986-1990 is the second highest among the seven countries, and an average investment growth of 4-5 per cent in volume terms from 1985 would still be attainable without much further shift in the allocation of resources for domestic use. Some deceleration is, in any event, expected for investment after 1986, for which the annual plan target is 12 per cent in current prices.

Czechoslovakia plans a very clear resumption of investment expansion in 1986-1990, following the absolute decline in capital spending in 1981-1985 compared with 1976-1980. The implied 3 per cent annual investment growth rate planned from 1985 to 1990 is slightly lower than for NMP produced, which implies a further marginal fall in the investment ratio. The average growth rate planned over the five years is considerably higher than the annual plan for 1986, and some acceleration towards the end of the plan period is therefore expected.

The *German Democratic Republic* has not as yet published its new five-year plan guidelines. The modest annual plan for 1986 suggests that the emphasis on investment resource saving, which was strongly apparent in 1981-1985, will continue during the new plan period.

As noted earlier, *Hungary* announced its five-year investment target, as in the past, in current prices. On the assumption of a price rise of 5 per cent annually, investment could be expected to rise at a modest 2 per cent annual rate from 1986—compared with a corresponding NMP objective of 3 per cent per year. This would bring investment ratios below current levels. Little or no investment growth is seen for 1986, but investment growth could pick up toward the end of the plan period.

In *Poland* the central variant of the new five-year plan calls for an average annual investment growth rate of 4-5 per cent annually. This would maintain the steady increase in investment ratios which has occurred since the crisis year of 1981-1982, and raise the level of investment by 1990 to about 90 per cent of its pre-crisis peak (in 1978). A comparison of the five-year and annual plan targets suggests stable investment growth throughout the period.

The *Romanian* five-year investment targets, as published in the draft guidelines in the autumm of 1984, were partly based on a 1985 annual target which was underfulfilled by a large margin. No final version of the plan has yet appeared. Nevertheless, the target of a 9-13 per cent rise between 1981-1985 and 1986-1990 is modest by historical standards. The high annual plans for both 1985 and 1986, as well as the fast rate of NMP growth envisaged, might indicate that the five-year investment objectives have been scaled up, but this would not be consistent with the slow growth apparently achieved in 1985. The plans are thus uncertain, but the recent trend of investment gives no grounds for expecting much acceleration up to 1990.

The investment plans for the *Soviet Union* show a 4 per cent growth rate and probably a stable investment ratio (since the NMP target is, as usual, given in terms of NMP used, which tends to grow rather more slowly than NMP produced, the investment ratio may in fact be expected to fall). The plan target is virtually identical with performance in 1976-1980 and 1981-1985. It is, moreover, quite modest relative to the nearly 8 per cent rise scheduled in the annual plan for 1986. Thus, growth in 1987-1990 could fall to just over 2 per cent annually.

These generally cautious investment objectives seem practicable to the extent that, first, it proves possible to maintain the external balances at manageable levels. External payment commitments to repay debt are still onerous in some countries. It will also be necessary to raise export earning sufficiently to cover import needs—notably imports of investment goods. The key question is whether and to what extent the investment effort foreseen is adequate to ensure that the various priority economic tasks facing the seven countries are carried out. The answer to this question has something to do with the quantity of investment, but also with its quality and the way it is employed.

With regard to the quantitative aspects, a first point to note is that the backlog of unfinished investment, as noted earlier, continues to grow in almost all of the countries concerned—even though at a slower rate. Since it is equivalent to about one year's investment in all of them, there is scope to provide useful additions to the capital stock at no extra cost in investment outlays. All countries which have published five-year plans have again stressed the importance of this objective. Second, this point has obvious relevance with regard to the modernization of the stock of fixed assets. One indicator of this is the share of fixed assets less than five years old in the total capital stock. If investment in successive five-year periods is cumulated and expressed as a percentage of the total stock of fixed assets in the final year of each period, the results suggest a serious aging problem in all the countries reviewed. Compared with the years in which this share peaked (shown in brackets in the following list), the amount by which the share of fixed assets under five years old in the material sphere capital stock had declined by 1984 is as follows: Bulgaria: 15 per cent (1974); Czechoslovakia: 16 per cent (1978); the German Democratic Republic: 23 per cent (1974); Hungary: 25 per cent (1979); Poland: 50 per cent (1977); Romania: 24 per cent (1979) and the Soviet Union: 19 per cent (1974). This sets in context the emphasis in all the published plans on increasing the share of machinery and equipment in total investment spending—i.e., ensuring that, within the fairly modest plan investment objectives retained, as much as possible is directed to the "active", technology-embodying component.

With regard to the qualitative aspects, the five-year plans are for the most part silent concerning the extent to which the modernization process is to involve the weeding-out of obsolete equipment. One of the reasons for the decline in capital productivity is the relatively large amount of obsolete, costly-to-maintain equipment kept in service. Fixed asset retirement rates were low in all seven countries (between 0.6 and 2.7 per cent of total material sphere fixed assets annually) in 1981-1984, and they declined compared with 1976-1980 in all countries but Poland. More rapid retirement rates are in fact foreseen. In the Soviet five-year plan, for instance, it is stated that the rate of retirement of obsolete fixed assets in 1986-1990 is to double compared with the rates recorded during the 1981-1985 plan period.

A further quality-related area is the need to ensure faster introduction of scientific and technological expertise. Within the investment sphere, this means, first, ensuring that the engineering industry is able to supply high-quality machinery and equipment in adequate amounts. The generally falling share of investment in the engineering branch itself has been referred to earlier. It is clear that this problem has been recognized, since almost all of the five-year plans single out engineering for priority development. (In the Soviet Union, for example, investment in this branch is to rise in 1986-1990 by 80 per cent compared with 1981-1985.)

At a more general level, it was noted in subsection (ii) above that rates of capital productivity decline even accelerated in some countries during 1981-1984 as compared with 1976-1980. Improvements occurred in some countries in 1983-1985, and there were two cases where capital productivity actually rose marginally. However, most of this improvement reflects the combined effects of the easing of overall and especially external growth constraints on one hand, and the falls in capital investment over the last five years on the other. In countries where investment growth has been more buoyant, no such improvement has occurred. The example of the German Democratic Republic suggests that the most effective determinant of gains in capital and investment productivity is strong action to curb excessive investment spending, and much closer scrutiny of projects proposed. Where restrictions on investment arose mainly from unfavourable domestic and external developments (or where such pressures were absent), the required gains in efficiency have not yet occurred.

3.5 CONSUMER INCOMES AND SUPPLIES

The share of national income used domestically allocated to accumulation appears to have risen in most of the centrally planned economies of eastern Europe and the Soviet Union in 1985. Real incomes per capita continued to grow, and incomes originating in the social consumption funds rose faster than wages and salaries. Retail prices in 1985 increased substantially in Hungary and Poland, but only moderately in Bulgaria and Czechoslovakia. In the Soviet Union, retail prices decreased. The growth of retail trade turnover stabilized in 1985 as compared with 1984 in all the countries reviewed except Romania. Consumption of non-food products grew faster than food products. Allocation of national income for domestic utilization is discussed in subsection (i), changes in personal incomes in subsection (ii) and consumer prices and price policies in subsection (iii). Consumer goods supplies, housing and the structure of personal consumption are examined in subsections (iv) and (v).

(i) Allocation of national income for domestic utilization

The rate of change in domestically used national income (hereafter called NMP used) affects its allocation between consumption and accumulation. As discussed in section 3.1, the rate of growth of NMP used during the period 1981-1985 was strongly influenced not only by changes in NMP produced but also by the need of most of the seven countries reviewed to attain trade surpluses. Accordingly, NMP produced rose considerably faster than NMP used in some countries. In Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania, the volume of resources for domestic use even declined in some years. In the Soviet Union, changes in the foreign trade balance had no noticeable influence on the growth of NMP used.

The five-year plans for 1981-1985 all contained provisions for raising living standards in line with increases in economic efficiency.[296] The priority given to maintaining the growth of consumption as rates of growth of NMP used slowed down and resulted in increases in the share of consumption in NMP used in all seven countries under consideration (table 3.5.1). The share of consumption was higher than in the previous five-year period in particular in Czechoslovakia, the German Democratic Republic, Hungary and in Poland. Bulgaria experienced the smallest increase in this share. The five-year plan for 1981-1985 in Romania envisaged an increase from 64 to 70 per cent of NMP used between 1980 and 1985.[297] No final data on changes in the allocation of NMP are available, but the publication of a target figure of 70 per cent for 1986 indicates that the projections for 1981-1985 were not achieved.[298]

In the Soviet Union changes in the allocation of NMP used in the whole five-year period have tended to reduce the share of consumption. In the preceding five-year period (1976-1980) its share in NMP moved up, reflecting the priority given to an acceleration of the rise in living standards. At the same time, rates of growth of consumer goods output and retail trade turnover were smaller than the increase in money incomes. Measures to accelerate the output of consumer goods and services had only

TABLE 3.5.1

Allocation of national income

(*Percentage share*)

Period	*Consumption*			*Accumulation*
	Total	*Personal*	*Social*	
Bulgaria				
1976-1980	74.3	60.7	13.6	25.7
1981	73.3	60.2	13.1	26.7
1982	74.7	61.7	13.4	25.3
1983	75.9	61.6	14.3	24.1
1984	75.7	61.1	14.6	24.3
Czechoslovakia				
1976-1980	74.3	54.3	20.0	25.7
1981	79.9	57.5	22.4	20.1
1982	79.6	57.2	22.4	20.4
1983	80.5	57.6	22.9	19.5
1984	80.2	56.0	24.2	19.8
German Dem. Rep.				
1976-1980	77.0	64.0	13.0	33.0
1981	78.3	65.7	12.5	21.7
1982	82.0	69.0	13.0	18.0
1983	82.1	69.4	12.7	17.9
1984	83.4	70.6	12.8	16.6
Hungary				
1976-1980	76.4	66.6	9.8	23.6
1981	82.2	71.1	11.1	17.8
1982	84.2	72.8	11.4	15.8
1983	87.1	75.3	11.8	12.9
1984	88.5	76.5	12.0	11.5
Poland				
1976-1980	71.6	60.0	11.6	28.4
1981	90.1	77.6	12.5	9.9
1982	73.7	62.5	11.2	26.3
1983	76.1	64.4	11.7	23.9
1984	75.3	62.8	12.5	24.7
Romania				
1976-1980	63.7*	. .	. .	36.3*
1981	65.0*	. .	. .	35.0*
1982	66.0*	. .	. .	34.0*
1983	67.2*	. .	. .	32.8*
1984	68.2*	. .	. .	31.8*
Soviet Union				
1976-1980	73.9	. .	. .	26.1
1981	75.8	. .	. .	24.2
1982	74.1	. .	. .	25.9
1983	73.8	. .	. .	26.2
1984	74.8	. .	. .	25.2

Sources: National statistics, plans and plan-fulfilment reports, *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues a short-term effect because the pace of consumption growth is generally determined by the rate of expansion of total national income. Policies to improve economic efficiency during 1981-1985, the further deceleration in the growth of the labour force, the high cost of raw material extraction, and other reasons made it necessary to increase investment. Consequently, the share of accumulation in NMP used increased. The small change in consumption's share is expected to be temporary; its level continued to rise in absolute terms.[299]

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[296] See also V. Kirichenko (ed.), *Sotsialnye problemy v perspektivnom planirovanii (Social Problems in Long-term Planning)*, Moscow, 1982, pp. 42-43. It should also be mentioned "that the social programmes of the previous five-year periods (1971-1975, 1976-1980) which as a rule in the most countries were fulfilled or overfulfilled had been based on higher increase in the social production efficiency than in fact was achieved", *ibid.*, p. 43.

[297] *Developpement socio-économique*, AGERPRES, Bucarest, 1984, p. 35.

[298] *Scinteia*, 18 December 1985.

The size and direction of changes in the relative shares of *personal* and *social* consumption were different in individual countries. The share of the former decreased slightly in Bulgaria, Czechoslovakia, Poland and, according to preliminary estimates, also in the Soviet Union. Economic policy in these countries gave special attention to accelerating the growth of social consumption and to increasing its share in real incomes.

The high level of social consumption achieved by the German Democratic Republic in previous years made it possible to give priority to personal consumption growth in the 1980s. Measures taken to link labour remuneration more closely with results also contributed to this process.

As to the immediate future, no quantified targets are available for 1986 in the majority of countries reviewed. However, the planned acceleration of economic growth and efforts to speed up the transition to a more intensive pattern of economic development will certainly require more investment. The share of accumulation in NMP used is to rise in 1986-1990 in Bulgaria, Hungary, Poland and the Soviet Union. Social consumption is to grow faster than personal consumption in most countries.

(ii) Incomes

Increases in *real income* per capita in 1981-1985 generally indicate a stable rise in the volume of consumption, though there were some variations between countries (table 3.5.2). Real incomes rose by 20 per cent in the German Democratic Republic, by 19.5 per cent in Bulgaria, by 15.8 per cent in the Byelorussian SSR, by 12.8 per cent in the Ukrainian SSR, by 11.8 per cent in the Soviet Union as a whole, by 7.5 per cent in Hungary and by 5.2 per cent in Czechoslovakia. In Poland, real incomes fell by about 8 per cent. No data are available for Romania. Average annual percentage changes in real incomes in 1981-1985 slowed down in most countries except Bulgaria compared with 1976-1980. This resulted mainly from the slowdown in economic growth. The pace of real income growth over the whole period closely paralleled the growth of NMP. Thus, in the initial years of the review period, real incomes in Bulgaria and Hungary rose faster than in more recent years. Shortages of agricultural products contributed to retail price rises in 1982 in Czechoslovakia, the Soviet Union and Poland. This led to absolute declines in real incomes in Czechoslovakia and Poland, and a slowdown in their growth in the Soviet Union, in that year. These movements were reversed in subsequent years. Available data suggest that the rise of real incomes in most countries in 1985 exceeded the average for the whole period. The biggest increases both over the whole of 1981-1985 and in 1985 alone, were recorded in the German Republic (3.7 and 5 per cent respectively).

Real wages and salaries per earner rose slower than real incomes per capita (table 3.5.2). This mainly reflected the fact

TABLE 3.5.2

Real incomes and real wages
(Annual percentage change)

	Real incomes per head of population	*Real wages per wage- or salary-earner*
Bulgaria		
1976-1980	2.6	0.5
1981-1985 Plan	2.8	. .
1981-1985	3.6	. .
1981	5.8	4.7
1982	4.1	2.2
1983	2.7	−0.2
1984	2.9	3.2
1985	2.7	. .
1986 Plan	2	. .
Czechoslovakia		
1976-1980	1.3	0.7
1981-1985	1.0	. .
1981	1.6	0.6
1982	−0.7	−2.3
1983	1.6	0.6
1984	1.4	0.8
1985	0.9*	–
1986 Plan	1.9*	2
German Democratic Republic		
1976-1980	4.5	2.7
1981-1985 Plan	3.9-4.2	. .
1981-1985	3.7	. .
1981	4.0	2.2
1982	3.3	1.9
1983	2.3	1.3
1984	4.0	2.0
1985	5	. .
Hungary		
1976-1980	1.8	0.7
1981-1985 Plan	1.2-1.4	. .
1981-1985	1.4-1.6	−1
1981	2.9	1.1
1982	0.9	−0.7
1983	1.1	−3.2
1984	1.1	−2.4
1985	1-1.5	0.5
1986 Plan	1-1.5	–
Poland		
1976-1980	2.9	1.8
1981	3.3	2.6
1982	−18.0	−24.9
1983	0.4	1.1
1984	1.8	0.5
1985	. .	3
Romania		
1976-1980	5.1	5.2
1981-1985 Plan	3.5	2.9
1981-1985	. .	1.6
1981	1.5	1.0
1982	. .	−5.4*
1983		−1.5*
1984	. .	6.0[a]
1985	. .	1.9
1986 Plan	. .	1.3[b]
Soviet Union		[b]
1976-1980	3.4	3.0
1981-1985 Plan	3.1	2.7
1981-1985	2.2	2.4
1981	3.4	2.1
1982	0.1	2.8
1983	2.1	1.8
1984	3.0	2.4
1985	2.5	2.8
1986 Plan	2.5	2.6

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[299] See also, "Nakoplenie i intensifikatsia" (Accumulation and Intensification), B. P. Plyshevsky, *Ekonomicheskaya gazeta*, No. 3, 1986.

TABLE 3.5.2 *(continued)*

	Real incomes per head of population	*Real wages per wage- or salary-earner*
Byelorussian SSR		b
1976-1980	3.6	3.7
1981-1985 Plan	3.1	2.6
1981-1985	3.0	2.7
1981	4.7	2.1
1982	0.5	2.7
1983	2.6	2.1
1984	3.8	3.2
1985	4.0	3.5
1986 Plan	2.6	2.4
Ukrainian SSR		b
1976-1980	3.2	3.0
1981-1985 Plan	3.2	2.3
1981-1985	2.4	2.2
1981	5.0	1.8
1982	1.4	3.4
1983	1.4	1.8
1984	2.0	1.6
1985	2.4	2.6
1986 Plan	2.8	..

Sources: As for table 3.5.1.

[a] 1984 to 1980.

[b] Average nominal wage.

that incomes from social consumption funds, which are a part of real incomes, grew faster than wages and salaries alone.[300]

Targets for real income growth in *1986* are available only for some countries. Judging by planned NMP increases, recent changes in the allocation of NMP used, in labour remuneration, in retail trade turnover and retail price changes, however, it is likely that the increase in real income will be similar to, or slightly above, the average annual rates achieved in 1981-1985 in most countries.

Money incomes are the basic determinant of real income growth. They account for about 80 per cent of total personal incomes. Policies in this area aim at ensuring that increases are differentiated according to the income levels of recipients in different social groups. Care is also taken to co-ordinate money incomes, retail prices and the supply of consumer goods and services with consumer policy as a whole. Finally, wages and salary levels are expected to provide incentives for improved efficiency. These considerations are reflected in the rates of growth of money incomes in 1981-1985. Average annual rises in most countries were below those in the previous five-year period. The particularly large increases in Hungary and Poland were accompanied by big rises in retail prices (table 3.5.3). In general, recent tendencies continued into 1985.

Within total money incomes, *incomes from agriculture* rose faster than wage incomes over the entire period in Czechoslovakia, Hungary and the Soviet Union. This was also the case in Poland in 1981-1982. As stated in the previous issue of this publication: "The policy of accelerated growth of agricultural incomes, which was accompanied by contractions in agricultural employment, aimed to stabilize the number of farmers and achieve faster growth of agricultural production and labour productivity".[301]

Money incomes from the social consumption funds, especially pensions and social benefits, rose faster than total money incomes in almost all countries under review over the whole period. The German Democratic Republic was the only exception. In Poland, after a considerable (139 per cent) rise of pensions and social benefits in 1982, growth in this category decelerated markedly, but was still above that of total money incomes. A levelling-off in the total amount of pensions paid out in the German Democratic Republic reflects an absolute decrease in the number of pensioners.

Rises in *average monthly nominal wages and salaries* ensured increases in consumption (table 3.5.4). An important aspect of wage and salary policy in all the countries and during the whole period reviewed is the increased attention paid to the incentive role of wages, and to achieving closer linkages between wage and labour productivity increases. This seems to be a long-term policy orientation, as available information suggests that it will continue in 1986-1990.[302] According to reports from the Soviet Union, the rise in industrial labour productivity in 1985 exceeded the increase in average wages and salaries. In Poland, the gap between wage increases and productivity narrowed.

Though average monthly wages and salaries moved at different rates in the various branches of the national economy in all countries reviewed, there was a general tendency (notably in Czechoslovakia, Hungary, Poland and to some extent in the Soviet Union) for wages and salaries to grow faster in the material sphere (in industry and agriculture especially) than in the non-material sphere (chart 3.5.1). The absolute level of average monthly wages and salaries in health care was below that of industry and agriculture.

The main factors determining wage and salary increases are changes in workers qualifications and promotion; increases in basic wage and salary rates; and labour productivity increases (which contribute to rising profitability and thus determine the size of bonuses paid from the material incentive funds). In the material sphere, all three factors influence the rise of wages and salaries—the rise of labour productivity being quantitatively the most important. The first two only determine increases in non-material sphere wages and salaries.

During the 1970s, and especially in the 1980s, a majority of the countries reviewed took steps to accelerate scientific and technological progress, to introduce achievements of science into the production process on a bigger scale and to link them more closely with product development. In addition to other

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[300] Payments and benefits from social consumption funds constitute more than 20 per cent of per capita real incomes in the Soviet Union. In Hungary, incomes resulting from work rose by 3.8 per cent, while social incomes rose by 11.8 per cent in 1980-1984. See *Pravda*, 29 November 1985, and *Statisztikai évönyv*, 1984 (*Statistical Yearbook, 1984*), Budapest, 1985, p. 241.

[301] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 146.

[302] "A rise of incomes of working people will, first of all, be due to an increase in labour productivity, better individual and collective results of work." (Statement by the Chairman of the State Planning Committee of the USSR, N. V. Talyzin, State Plan of Economic and Social Development of the USSR for 1986, *Pravda*, 27 November 1985.)

"The material interest of working people is to be directed more strongly towards the attainment of high performance levels with a view to raising labour productivity and efficiency still further. Our tried and tested incentive wage policy should be carried on consistently.

"Productivity-oriented wage schemes should be geared towards attaining above-average increases in labour productivity in selected combines and enterprises by combining scientific and technological innovation processes with the wide application of scientific principles to the organization of labour and by deriving greater benefits from working people's qualification standards and production experience." (*Statement by the Chairman of the German Democratic Republic's Council of Ministers, Willi Stoph in support of the 1986 National Economic Plan*, Panorama DDR, 1985, p. 53.)

TABLE 3.5.3

Money incomes

(Average annual percentage change)

Country and period	Total money income	Wage and wage-like incomes	Income from agriculture	Pensions and social benefits	
				Total	Pensions
Bulgaria					
1976-1980	7.2*	6.2	7.6	10.0	10.0
1981	6.0*	6.9	6.8	4.4	6.8
1982	4.2*	3.9	2.7	6.6	9.7
1983	2.2*	3.2	−3.4	4.3	6.0
1984	4.1*	3.8	4.4	5.0	6.5
1985	. .	3.4*	. .	. .	. .
Czechoslovakia					
1976-1980	4.1	4.0	1.6	5.7	6.2
1981-1985	3.1	2.7	. .	4.3	. .
1981	2.6	2.6	2.3	1.9	3.3
1982	4.3	3.3	6.2	8.2	7.9
1983	3.1	2.7	6.5	3.6	3.8
1984	2.6	2.5	3.7	2.4	2.8
1985	3.1	2.5	. .	5.3	. .
German Dem. Rep.	a				
1976-1980	3.8	3.8	. .	6.6	5.0
1981-1985	3.2	. .	. .	. .	. .
1981	3.1	3.4	. .	0.7	−0.5
1982	2.8	2.8	. .	2.9	−0.7
1983	2.3	2.2	. .	0.1	−0.7
1984	3.9	2.6	. .	1.4	–
1985	4.0	. .	. .	. .	. .
1986 Plan	4.0	. .			
Hungary		b			
1976-1980	8.4	7.5	8.4	12.9	15.6
1981-1985	8.2	6.7	. .	9.7	10.5
1981	8.1	5.9	11.1	7.9	9.3
1982	7.3	5.9	10.3	9.0	12.0
1983	8.5	6.7	13.6	9.2	9.5
1984	9.2	7.9	6.5	12.3	12.1
1985	8*	7-7.5	. .	9.9	9.4
Poland					
1976-1980	11.1	9.7	11.2	16.5	19.7
1981-1985	31.3	26.0	. .	. .	. .
1981	31.1	27.0	56.4	36.9	31.9
1982	64.9	44.0	56.9	139.4	107.1
1983	23.0	26.1	6.8	19.3	24.0
1984	18.3	15.8	9.7	17.4	21.5
1985	23.9	19.0	. .	. .	. .
Romania	a		c		
1976-1980	9.7	10.3	10.3	6.8	5.4
1981-1985	6.7	. .	. .	. .	. .
1981	5.5	5.9	8.6	3.4	2.9
1982	9.5	9.6	12.7	17.7	11.7
1983	5.1	3.6	–	3.9	7.2
1984	5.5	6.5	4.9	8.4	10.4
1985	4				
Soviet Union					
1976-1980	4.9*	5.0	3.3	5.5	6.4
1981-1985	. .	3.3	4.6	6.0	. .
1981	3.6*	3.5	1.1	5.6	6.3
1982	4.3*	3.9	5.2	5.9	6.8
1983	3.7*	2.6	9.5	6.7	5.8
1984	3.6*	3.1	3.7	5.9	5.5
1985	. .	3.4	3.6	5.8	. .

Sources: As for table 3.5.1

[a] Net money income, for Romania excluding peasant income

[b] Wages only (excluding wages paid by agricultural co-operatives)

[c] Socialist sector only

TABLE 3.5.4

Average monthly nominal wages

	Average monthly wages and salaries in national currency units in 1985	Annual percentage change					
		1976-1980	1981	1982	1983	1984	1985
Bulgaria	213	4.9	5.2	2.5	1.9	4.2	3.4*
Czechoslovakia	2 908	2.8	1.5	2.3	1.9	1.7	1.9
German Dem. Rep.	1 102 [a]	3.0	2.4	1.9	1.3	2.0	..
Hungary [b]	6 000	6.2	6.4	6.7	4.9	5.6	8
Poland [b]	19 900	8.0	27.4	51.3	24.5	16.3	18.4
Romania	2 773 [a]	4.3	4.6	7.9	3.0	6.6	2*
Soviet Union	190 [c]	3.0	2.1	2.8	2.6	2.4	2.7

Sources: As for table 3.5.1.

[a] 1984.

[b] Socialist sector of the national economy (excluding agricultural co-operatives).

[c] 268 roubles if payment and benefits from social consumption funds are included.

CHART 3.5.1

Average annual monthly nominal wages and salaries in different branches of the national economy

(Indices, 1980 = 100)

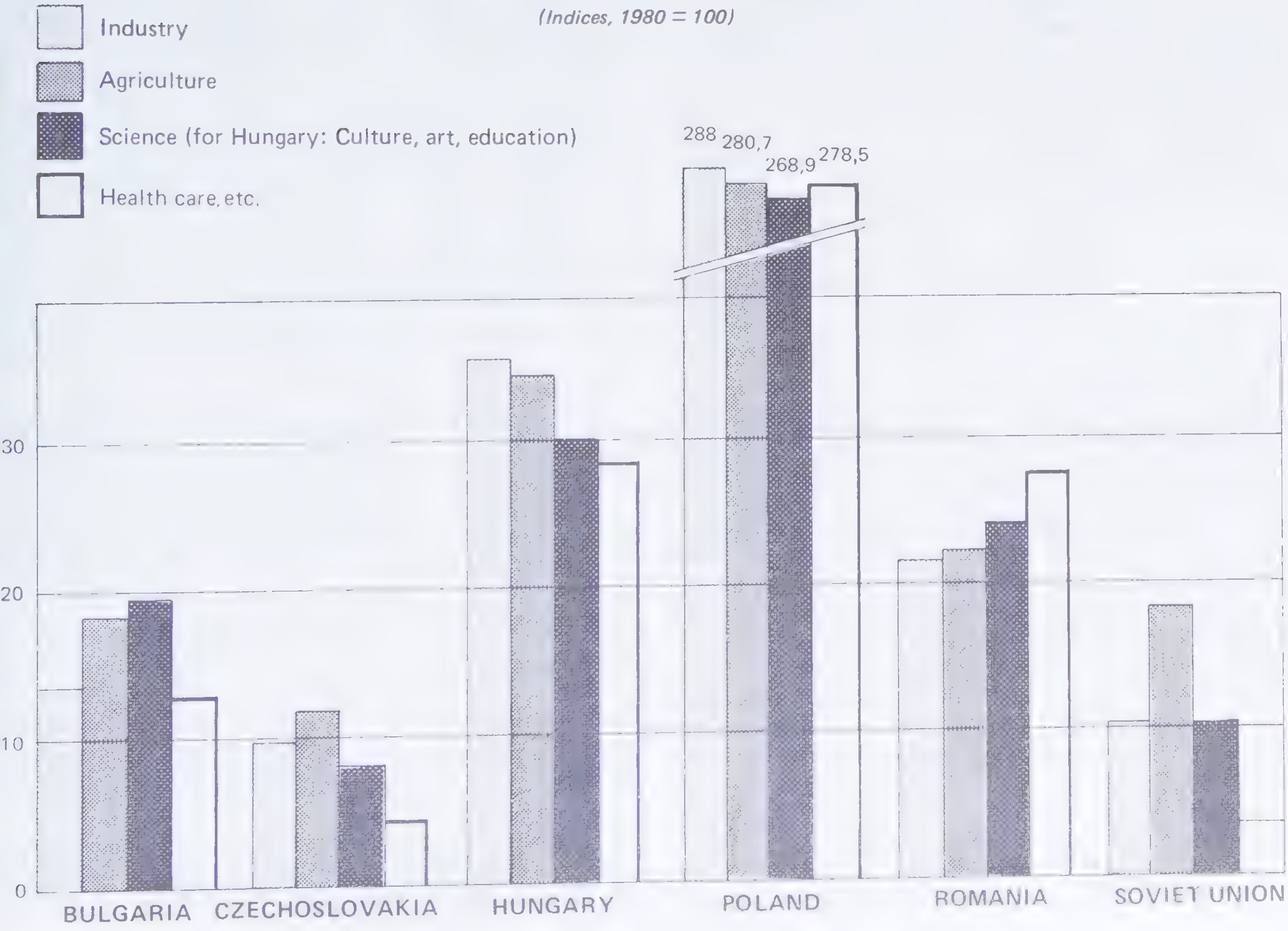

TABLE 3.5.5

Social consumption fund

		Allocations from social consumption funds				
Country and period	*Social consumption fund (Per cent of total incomes)* [a]	*Pensions and social benefits*	*Education* [b] *and culture*	*Health*	*Housing subsidies*	*Other*
		(Percentage shares)				
Bulgaria						
1975	32.4	44.1	22.6	14.4	0.1	18.8
1981	35.5	43.6	23.6	16.4	0.7	15.7
1982	35.8	43.5	23.2	16.8	0.9	15.6
1983	35.8	43.8	22.5	16.4	0.9	16.4
1984	35.7	44.0	22.4	16.3	1.0	16.3
Czechoslovakia						
1975	33.1	48.3	20.9	15.2	4.1	11.5
1981	34.7	48.7	20.8	15.9	4.3	10.3
1982	35.4	49.1	20.6	15.7	3.9	10.7
1983	35.4	49.1	20.5	15.9	4.0	10.5
1984	35.8	48.9	20.5	15.9	4.1	10.6
German Dem. Rep.						
1975	28.7	38.7	24.7	15.8	7.9	12.9
1981	34.4	35.4	23.3	18.0	12.6	10.7
1982	34.7	34.5	23.8	18.1	12.9	10.7
1983	34.6	33.2	23.6	19.0	13.6	10.6
1984	38.1	31.7	23.6	18.9	15.2	10.6
Hungary						
1975	27.1	56.0	21.3	14.6	2.4	5.7
1981	32.3	57.3	21.2	14.7	1.7	5.1
1982	33.1	56.8	21.5	14.8	1.5	5.4
1983	33.1	57.5	21.2	14.3	1.5	5.5
1984	33.7	58.1	21.0	14.1	1.4	5.4
Poland						
1975	18.9	39.8	27.0	26.9	3.9	2.4
1981	31.0	45.4	20.3	23.6	5.4	5.3
1982	26.4	32.6	17.0	18.3	6.5	25.6
1983	26.9	42.9	19.4	19.4	6.5	11.8
1984	27.6	..	..	..	..	..
Soviet Union						
1975	31.5	37.3	27.9	14.3	5.4	15.1
1981	32.3	38.2	26.6	14.6	6.0	14.6
1982	32.5	38.6	26.5	14.5	6.1	14.3
1983	32.9	39.5	25.9	14.2	6.2	14.2
1984	33.1	40.3	25.9	14.0	6.3	13.5

Sources: As for table 3.5.1, *Statisticheskii ezhegodnik stran-chlenov SEV, 1985* (*CMEA Statistical Yearbook 1985*) Moscow, 1985, p. 50.

[a] Calculated on the basis of *Osnovnye metodologicheskye polozhenia po statistike* (Basic Methodological Principles of Statistics), vol. I, part 2, Moscow, CMEA, Standing commission on statistics.

[b] Including student grants.

measures, implementation of such policies required more extensive use of incentive funds to remunerate scientists and workers in related fields. In Bulgaria and Romania, their remuneration was higher in absolute terms, and increased faster, than wages and salaries in industry over the whole period. In Czechoslovakia, the increase in wages for scientific workers was slightly below the industrial average but their level remained above it. In Poland, sharp rises in industrial wages and salaries during the 1980s widened the existing gap between industrial and scientific workers in favour of the former. Despite slight increases in the remuneration of scientific workers in the Soviet Union in 1982-1983, their average monthly nominal wage and salary were about 97 per cent of levels of those in industry.

Payments and social benefits from *social consumption* funds played an important role in raising consumption and real incomes. Available data demonstrate that the share of social consumption funds in total incomes within the period analysed increased considerably over the previous five-year period in all countries; they also rose more quickly than labour remuneration (table 3.5.5). This had two main reasons: first, services provided by social consumption funds (education, health care, culture etc.) grew faster than labour remuneration. Secondly, the number of persons whose incomes are derived from social consumption funds (pensions, benefits, stipends, etc.) increased more rapidly than the labour force.[303]

The structure of social consumption funds was generally similar in all countries reviewed. The biggest category is pensions and social benefits, which mainly determine the rate of growth of the monetary income element of social consumption funds and its share in total incomes. Other items are, in order of size: education and culture, health, housing subsidies, and other payments. The similarity reflects the numerous common elements of social policy in the seven countries, and also the fact that the financing of these activities derives from similar sources. At the same time, inter-country differences in the share of individual categories illustrate varying priorities in the seven countries' social policies. For example, in the German Democratic Republic, housing is treated as the focal point of social policy, consequently, the share of state housing subsidies is bigger than elsewhere.

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[303] See also V. Rutgaizer, "Obshchestvennye fondy potrebleniya v sisteme raspredeleniya pri sotsializme" (Social Consumption Funds within the System of Allocation under Socialism), *Izvestia AN SSR, Seria ekonomicheskaya*, No. 6, 1985.

In 1985, as during the whole five-year period, much attention has been paid to the increase in pensions and social benefits. In *Bulgaria*, pensions for 850,000 people were increased in 1985. The state paid out 9.1 per cent more in pensions than in 1984. The minimum pension was increased by 20 per cent. Mothers were granted paid child care leave of two years from the date of birth of a child. In 1986, new pensions, and also those for workers who retired before December 1975, are to increase by 15 per cent.

In *Czechoslovakia*, the total pensions and social benefit fund rose by about 4 per cent, and 1.2 million pensioners received increases. The daily benefit ceiling paid by the health insurance fund rose by 25 per cent, and the minimum length of paid holidays of young people between 18 and 23 years of age was extended from two to three weeks.

In the *German Democratic Republic*, higher pensions were paid to about 2 million people in the period 1984-1985. The value of annual increases paid was equal to about 1 per cent of the annual net money income of the total population.

In *Hungary*, minimum pensions were increased in addition to the automatic increase customarily implemented at the beginning of the year. State grants given to families with three or more children to build and buy homes were increased by 40,000 forints (a sum equal to seven months' average wages). Maternity benefits were raised by 60 per cent, and maternity leave was lengthened from 20 to 24 weeks. In 1986, the real value of pensions will be maintained by increasing pensions for 1.3 million people. Pensions for those over the age of 70 and for persons affected by serious illness can be linked with price changes.

In *Poland*, average monthly old-age and disability pensions (excluding pensions in agriculture) were increased by about 15 per cent, in line with retail price rises. Maternity benefits were raised by 16.5 per cent over the same period of 1984 in July 1985. Education benefits fell because of the reduced number of entitlements.

In order to stimulate a higher birthrate, *Romania* adopted a special decree which involves annual expenditures of over 6.5 billion lei.

During 1981-1985, the annual increase in pensions and social benefits in the *Soviet Union* was above 6 per cent—higher than the average annual increase in wages and salaries. Changes in maternity benefits also aimed to increase the crude birthrate. The number of third and fourth births rose by 2 percentages points between 1980 and 1984.[304] The plan for 1986 envisages a 4.1 per cent rise in the social consumption fund.

(iii) Consumer prices and price policies

Price policies in the centrally planned economies of eastern Europe and the Soviet Union are guided by both economic and overall social objectives and aim to ensure that all groups of the population can purchase basic necessities despite differences in income levels. Other social priorities are also taken into account in the price formation process. The main instrument is the regulation of retail prices for food and food products, clothing and textiles, and certain consumer durables. Some prices are subsidized.

Retail price changes in 1981-1985 did not prejudice real incomes or consumption increases in the majority of the countries reviewed. In Poland, retail prices more than doubled in 1982 and was one reason for the decrease in consumption. Table 3.5.6 suggests that nearly all countries experienced a rise in retail trade and service prices, the German Democratic Republic being the only exception. National data indicate that retail prices between 1980 and 1985 rose by 10 per cent in Czechoslovakia, by 38 per cent in Hungary, by 295 per cent in Poland, by an estimated 27 per cent in Romania and by 2 per cent in the Soviet Union. Average annual retail trade prices rose between 0-2 per cent in Czechoslovakia and the German Democratic Republic, and the slightly higher rate of 6 per cent in Hungary between 1980 and 1985 was virtually the same as in the previous five-year plan period. Only in Poland and Romania, where the average 6 1/2 per cent and 1.4 per cent annual rates in 1976-1980 rose respectively to over 30 per cent and 5 per cent annually in 1981-1985, was there any clear evidence of an acceleration in retail prices. In the Soviet Union, the rise in retail prices slowed down between the two periods, reflecting absolute falls in the retail price index in 1984 and 1985.

A common feature in almost all countries was a faster increase in retail prices of food and food products in comparison with non-food items between 1980 and 1985. Only in Hungary was the price change the same for these two groups.

In 1985, following increases in wholesale prices for some imported goods, some raw materials, fuel and energy, retail prices rose in Bulgaria, Czechoslovakia, Hungary and Poland. State subsidies in the German Democratic Republic kept consumer goods prices stable over the whole period. The subsidies rose by 88.2 per cent between 1980 to 1984, and in the latter year constituted more than 40 per cent of total monetary allocations to the population from the state budget. In other countries, higher retail prices were compensated by increases in money incomes.

(iv) Consumer goods supplies and housing

(a) Retail trade

Retail trade turnover rose in most of the countries reviewed by between 5 per cent (Czechoslovakia and Romania) and about 20 per cent (in Bulgaria) during 1981-1985. The sharp decrease in retail trade turnover which occurred in Poland in the early 1980s resulted in an absolute decline (in volume terms) of 7.5 per cent over the whole period reviewed. Supplies of *food and non-food products*, designated "consumer goods of basic necessity", were satisfactory except in Poland. The role of *personal plots* in supplementing retail supplies was emphasized especially in Bulgaria, Hungary, Poland, Romania and the Soviet Union, and *local and home-based production* was also encouraged.

The rise in retail trade turnover in all countries (table 3.5.7) in 1981-1985 was lower than in the previous five-year period and also lower than planned. Several factors influenced this deceleration. Domestic supplies were affected by slower-growing industrial output, and by shortages of agricultural products. Limitations were also placed on consumer goods imports in several countries. In most of them, those domestically produced consumer goods which were of poor quality proved

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[304] See T. Valovaya, "Gosudarstvennaya pomoshch semie" (State assistance to the family), *Ekonomicheskaya gazeta*, No. 51, 1985.

TABLE 3.5.6

Retail trade prices
(*Annual percentage change*)

Country and year	Total	Food	Non-food	Services
Bulgaria				
1976-1980	4.0	6.2	2.4	. .
1981-1985	. .	. .	. .	. .
1981	0.5	0.3	0.7	. .
1982	0.3	0.6	0.1	. .
1983	1.4	2.9	0.2	. .
1984	0.7	1.5	0.1	. .
1985	. .	. .	. .	. .
Czechoslovakia				
1976-1980	2.1	1.2	2.8	2.6
1981-1985	2.0	. .	. .	. .
1981	0.8	–	1.5	0.7
1982	5.1	9.4	1.5	0.3
1983	0.9	0.6	1.1	1.0
1984	0.9	0.7	1.1	1.3
1985	2.3	. .	. .	. .
German Democratic Republic				
1976-1980	0.1	–	–	–
1981-1985	0.1	–	–	–
1981	0.3	–	–	–
1982	–	–	–	–
1983	–	–	–	–
1984	–	–	–	–
1985	–	–	–	–
Hungary				
1976-1980	6.6	7.3	6.0	4.0
1981-1985	6.7	6.2	. .	. .
1981	5.0	3.1	6.5	6.5
1982	6.6	8.2	5.5	7.2
1983	7.2	5.6	8.4	10.1
1984	8.5	9.1	8.0	8.0
1985	6.3	5	6*	. .
Poland	[a]	[b]		
1976-1980	6.5	7.9	6.5	7.9
1981-1985	31.6	. .	. .	28.7
1981	18.4	14.6	10.9	15.3
1982	109.4	162.8	85.6	62.9
1983	21.9	13.1	22.3	31.5
1984	14.5	16.9	16.2	17.2
1985	14	. .	. .	22
Romania				
1976-1980	1.4	1.0	. .	1.6
1981-1985	. .	. .	. .	. .
1981	2.0	1.7	1.9	3.1
1982	16.9[c]	. .	. .	. .
1983	5.2[c]	. .	. .	
1984	1.1[c]	. .	. .	. .
1985	–[d]			
Soviet Union		[a]		
1976-1980	0.7	0.4	1.0	
1981-1985	0.4	. .	. .	
1981	1.0	0.2	1.0	. .
1982	3.8	0.4	2.9	. .
1983	–	0.2	–	. .
1984	–1.0	–	–1.8	. .
1985	–1.6*	. .	. .	

Sources: As for table 3.5.1

[a] Socialist sector

[b] Excluding alcoholic beverages and tobacco.

[c] IMF *International Financial Statistics*, December 1985, p. 390.

[d] January-June.

to be unsaleable, leading to increases in stocks of some industrial consumer goods. Available data indicate that retail trade stocks between the end of 1980 and the end of 1984 rose by 39 per cent in Bulgaria, by 27 per cent in Hungary and by 52 per cent in the Soviet Union.

A common feature in all countries during the period was the faster rise of retail trade in non-food compared with food products (except in the German Democratic Republic, where they rose at similar rates). In general, the volume of services rose faster than retail trade turnover. The supply of paid services, however, is still considered insufficient to meet demand. Money incomes rose faster than retail trade turnover and services, and consumer demand for some products was not satisfied. Therefore, it remains an important task for the 1986-1990 plan period to ensure that the growth of consumer goods production keeps in step with demand. In fact, increasing efforts have in recent years been made to monitor consumer demand and to co-ordinate it more precisely with national plans. Measures have also been taken to accelerate agricultural development and the production of industrial consumer goods.

In 1985, increases in retail trade turnover in the majority of countries were in line with planned targets. But statistical reports on economic development in 1985 noted shortages of seasonal food products, especially fruit and vegetables, in several countries. Shortages also persisted in the supply of certain consumer durables in Bulgaria, Czechoslovakia, Poland and the Soviet Union. The underfulfillment of retail trade targets in the Soviet Union in 1984 and 1985 was due largely to the stagnation of agricultural output for two years in succession.

Plans for 1986 envisage moderate increases in retail trade turnover in all countries, in line with expected economic growth. Greater attention will be paid to improving the quality of industrial consumer goods and to enhancing co-operation between the CMEA countries as to the production of sophisticated consumer goods.

To improve domestic supplies of high quality consumer goods and services, a "Comprehensive Programme for the Development of the Production of Consumer Goods and Sphere of Services for the Period 1986-2000" was adopted in the Soviet Union in October 1985.[305] This programme is an integral part of the "Basic guidelines of economic and social development of the Soviet Union for 1986-1990 and the period up to 2000". It includes a set of interrelated measures designed to raise the quality of consumer goods and services. Output of industrial consumer goods is planned to expand by about 5.4 per cent and services by 5.5-7 per cent annually during 1986-1990. The importance of these objectives was also underlined in the draft "Programme of the Communist Party of the Soviet Union", new edition, adopted in October 1985.[306]

In Romania a "Programme on Self-Management and Self-sufficiency to Ensure Appropriate Consumer Supplies of Agri-

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[305] "Kompleksnaya programma razvitia proizvodstva tovarov narodnogo potreblenia i sfery uslug na 1986-2000 god", *Pravda*, 9 October 1985.

[306] "A task of foremost importance is to meet completely the growing demand of the population for high quality and diverse consumer goods—foodstuffs, durable and beautiful clothing and footwear, furniture, commodities for cultural needs, and sophisticated household appliances and goods. ... An increase in the volume of services, a broadening of their range and an improvement of their quality will make it possible to meet more fully the growing demand of the population for various types of communal transport, everyday social and cultural services, to make housework easier, and to create better conditions for the meaningful use of free time, for rest and recreation." *Pravda*, 26 October 1985.

TABLE 3.5.7

Turnover of retail trade and services
(Average annual percentage change)

Country and year	Total	Food	Non-food	Services
Bulgaria				
1976-1980	3.9	2.4	4.7	3.4
1981-1985	..	..	..	..
1981	4.6	4.8	4.5	8.6
1982	4.5	2.6	6.1	8.7
1983	2.4	1.5	3.1	5.6
1984	3.8	3.3	4.3	6.3
1985	4.7[a]	..	..	12.8[a]
1986 Plan	4.5	..	..	9.5
Czechoslovakia				
1976-1980	1.7	2.3	1.2	5.5
1981-1985	1.0	..	..	..
1981	1.5	2.5	0.6	2.6
1982	−2.7	−5.2	−0.2	3.5
1983	2.2	0.9	3.6	2.2
1984	2.0	2.0	1.9	2.7
1985	1.9*	5.3[a]	3.2[a]	..
1986 Plan	2.4[a]	..	..	..
German Democratic Republic				
1976-1980	4.1	3.4	4.8	8.3
1981-1985	2.6	2.6	2.6	5.9
1981	2.6	2.9	2.3	9.7
1982	1.3	2.1	–	8.8
1983	0.6	2.0	−0.6	2.0
1984	4.3	3.3	5.6	4.3
1985	4.2	2.7	5.6	5.0
1986 Plan	4.0	..	..	6.0
Hungary				[b]
1976-1980	2.6	1.9	3.2	4.3
1981-1985	1.4	0.9	1.8	..
1981	3.2	2.2	4.0	4.0
1982	1.2	0.6	1.6	3.1
1983	0.3	0.1	0.4	2.6
1984	0.2	−0.8	1.0	2.8
1985	1.9	2.1	1.8	..
Poland		[c]		
1976-1980	3.3	3.4	3.7	7.3
1981-1985	1.5	..	..	..
1981	−4.6	8.1	7.5	0.4
1982	17.4	−14.3	−25.2	−10.9
1983	8.1	2.7	15.4	8.0
1984	4.4	1.7	5.9	6.5
1985	4		.	
1986 Plan	2.9	.	.	..
Romania		[a]	[a]	[a]
1976-1980	7.9	8.2	9.0	9.0
1981-1985	1.0*	..	..	..
1981	4.3	3.2	6.3	9.6
1982	−3.2*	20.7	4.7	7.5
1983	−1.8*	6.0	0.3	9.1
1984	3.9*	5.9	3.8	4.1
1985	1.8		..	
1986 Plan	1.3	..	.	15.0
Soviet Union				
1976-1980	4.5	3.5	5.4	7.5
1981-1985	3.1	..	..	5.7
1981	4.3	1.8	6.9	6.2
1982	–	0.6	1.0	4.7
1983	2.7	2.5	3.0	6.0
1984	4.2	3.7	5.4	5.7
1985	4.2	..	..	6.1
1986 Plan	3.6	..	..	..
Byelorussian SSR				
1976-1980	5.2	4.2	6.1	8.1
1981-1985	3.4	..	..	7.8
1981	4.3	1.8	6.9	6.9
1982	−1.6	0.6	−3.3	6.3
1983	4.2	3.5	4.8	7.0
1984	5.1	4.5	5.0	11.9
1985	5	..	..	7
1986 Plan	4.8	..	..	6.9
Ukrainian SSR				
1976-1980	4.1	3.1	5.0	7.4
1981-1985	2.9	..	..	..
1981	3.7	1.3	5.0	4.8
1982	–	–	–	4.0
1983	2.9	2.0	3.7	6.9
1984	4.6	3.2	5.0	5.6
1985	3.5	..	..	..
1986 Plan	3.5	..	..	5.9

Sources: As for table 3.5.1.

[a] At current prices.

[b] Per capita.

[c] Excluding alcoholic beverages and tobacco.

cultural Produce and Foodstuffs and of Industrial Consumer Goods in the Period 1 October 1985-30 September 1986", was adopted by the Grand National Assembly in November 1985. It foresees an acceleration in consumer goods production and increased supplies of food and non-food products. The supply of some items is planned to increase at very high rates and—for example, meat and meat products are to rise by 70 per cent and the supply of fish and fish products is to double.[307]

Draft five-year plan guidelines of other countries also envisage special measures to improve retail trade.

(b) Housing

During the period 1981-1985, a deceleration in *new dwelling construction* can be observed in most countries reviewed (table 3.5.8). Only in the German Democratic Republic did the total of completions rise, due to an increase in the number of dwellings modernized. In the Soviet Union, the number of completions was virtually stable at about 2 million dwellings per year. Compared with the previous five-year period, there was a deceleration in housing construction in most of the seven countries. There were two main reasons for this: first, investment generally slowed down; secondly, the number of families and individuals seeking new accommodation in most countries has decreased. In contrast, housing construction, including modernization, increased by 10 per cent in the German Democratic Republic. Nevertheless, housing remains a high priority concern for social policy in all seven countries.

Other features of the period reviewed were the rise in the quality of housing construction; increased rates of investment in infrastructure (schools, shops etc.); the greater number of new dwellings fitted with household appliances; and increases in the average size of new dwellings.

Bulgaria, Czechoslovakia, Hungary and Romania experienced slowdowns in the construction of housing financed from state budgets, and an increase in private or co-operative dwellings paid for by personal and state loans. For example, in Czechoslovakia the share of dwellings constructed by co-opera-

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[307] *Scinteia*, 17 November 1985.

TABLE 3.5.8

New dwellings constructed

Country and period	New dwellings (thousands) Total	State	Co-operative	Private	New units per 100,000 inhabitants	Average size of new dwellings (m^2)
Bulgaria						
1976-1980	351.8	..	..		800	60.7
1981-1985	339.4	..	..		..	..
1981	71.4	34.5	36.9		803	61.7
1982	68.2	30.3	37.9		770	62.9
1983	69.7	30.5	39.2		780	64.1
1984	68.9	28.8	40.1		770	64.8
1985	61.2	..	..		..	..
Czechoslovakia						
1976-1980	648.2	264.6	197.9	185.7	860	..
1981-1985	487.3	..	..	..	..	..
1981	95.4	32.4	33.6	29.4	623	74.1
1982	101.8	29.7	42.0	30.1	663	75.5
1983	95.7	21.7	45.0	29.0	620	75.3
1984	91.9	19.4	43.5	29.0	590	76.9
1985	102.5	..	..	..	..	..
German Dem. Rep.	a		b		a	
1976-1980	..	290.3	..	71.6	..	61.8
1981-1985	988.6	..	375.7	..	..	..
1981	185.4	62.9	59.7	21.5	1 110	61.8
1982	187.0	62.5	64.6	18.3	1 120	60.9
1983	197.2	61.6	74.6	18.5	1 180	61.1
1984	207.0	63.4	85.3	13.5	1 240	60.2
1985	212.2	..	91.5	..	..	..
Hungary						
1976-1980	452.7	162.2	290.5		837	66
1981-1985	369.7	..	..		..	74.3
1981	77.0	22.8	57.2		722	69.6
1982	75.6	19.1	56.5		706	70.4
1983	74.2	16.6	57.6		695	73.2
1984	70.4	10.1	60.3		660	78.3
1985	72.5	..	..		..	80
Poland						
1976-1980	1 308.3	245	724.2	339.1	749	62
1981-1985	956.8	..	..	..	..	..
1981	187.0	32.0	109.0	46.0	519	63.9
1982	185.3	31.5	97.8	56.0	509	66.7
1983	195.5	34.7	103.0	57.8	540	66.9
1984	196.0	140.9[c]		55.1	530	67.9
1985	193	..		..	..	..
Romania		c				
1976-1980	840.6	755.3		85.3	770	..
1981	161.4	150.5		10.9	720	56.6
1982	161.2	150.1		11.1	720	59.2
1983	146.7	135.4		11.3	650	58.0
1984	131.9	122.5		9.4	580	..
Soviet Union		c				
1976-1980	10 241	8 388	1 853		784	51.2
1981-1985	10 038	..	..		..	55.1
1981	1 997	1 646	351		746	53.3
1982	2 003	1 652	351		742	53.9
1983	2 030	1 675	355		750	55.4
1984	2 008	1 664	344		730	56.3
1985	2 000	..	..		..	56.5

Sources: As for table 3.5.1.

[a] Including modernized dwellings.

[b] Modernized dwellings.

[c] State and co-operative.

tives rose from 35 per cent in 1981 to 47 per cent in 1984. The big rise in completions recorded by Czechoslovakia in 1985 (18 per cent over 1984) was probably due to the termination of projects following big increases in unfinished construction in 1983 and 1984.

In the German Democratic Republic, the state was the main supplier of new housing, its share increasing from 50 to 53 per cent between 1981 and 1984. If modernized dwellings are included, the share of state housing construction rose from 66 per cent to 72 per cent in the same period. The number of private dwellings completed decreased by 37 per cent in 1985.

In Hungary, much attention was paid to urban dwelling construction. Fast rises in money incomes during 1981-1985 made possible an increase in the share of private and co-operative housing from 74 per cent of total completions in 1981 to 85 per cent in 1984.

Available data for Bulgaria and Poland suggest that the number of privately-constructed dwellings rose by 9 per cent and 20 per cent, respectively, in the period 1981-1984. Their share in the total rose from 52 per cent in 1981 to 58 per cent in 1984 in Bulgaria, and from 25 per cent to 28 per cent in Poland in the same years.

In Romania, state and co-operative housing completions fell over the whole period. Small increases in private construction took place in 1981-1983.

In the Soviet Union, the share of private construction was one of the lowest among the seven countries. Small increases in the number of private dwellings built in the initial years of the period were followed by a slowdown in 1984—probably because of shortages of construction materials. Plan figures for 1986 indicate that co-operative and private housing construction in 1986 will increase by 18 per cent over 1985. Industrial and agricultural enterprises are now increasingly supplying the finance.

(v) Structure of personal consumption

Changes in the structure of personal consumption are determined by various factors, notably by increases in incomes of the population (demand side) and by the production (and also imports) of consumer goods (supply side). Other factors such as demographic changes, national and regional traditions, climatic conditions and consumer psychology also play a role.

The analysis of structural changes in personal consumption faces some methodological and statistical problems.

First, numerous concepts of consumption are used in economic literature—"personal" and "social", "individual" and "collective", "paid" and "non-paid", "marketed" and "non-marketed". The various concepts differ according to the goods and services consumed, the financial resources used to purchase them, and the organizational channels through which consumption is moving. When analysing changes in the consumption of consumer goods, economic literature as well as statistical and planning practice refer to the concept of *personal consumption*, usually understood as the consumption of material goods financed from personal incomes.[308] From the financing angle, this type of consumption is often referred to as being "paid for by individuals". Personal consumption mainly results from purchases of goods through the retail trade network, (the biggest component of personal consumption) or, on the free market, from the payment of wages in kind and consumption of the produce of personal plots, and also from the purchase of public utilities (services such as passenger transportation and communications, power, water and gas for domestic purposes etc.).

Second, there are problems with the availability of statistical data. There are, however, several sources permitting an analysis of structural changes. They include data on retail trade turnover, household budgets, per capita consumption of major food products, stocks of selected consumer durables in the possession of the population, etc.

Available data on retail trade turnover make it possible to examine the structure of the biggest segment of personal consumption. Retail trade turnover reflects that part of consumption financed from money incomes. Through household budget statistics the consumption by different social groups of goods and paid services can be analysed. Household expenditures are based on personal incomes which include not only money incomes but also incomes in kind. Data from all available sources are used in the present subsection, but the more detailed analysis of structural changes in consumption is based on household budget statistics only.

The reason for this is that the structure of household expenditures in national statistics is measured on a comparable basis in most of the countries concerned. Nevertheless, some differences exist. For example, in Bulgaria since 1978 the item "transport and communications" includes expenditures to buy means of transport (cars, motor cycles, etc.) as well as payments for passenger transportation and communication, while in other countries expenditures on means of transport are included in the "consumer durables" item. Bulgarian expenditures on health care include only those on hygiene, but in Czechoslovakia payments for children's pre-school institutions and recreation are also included. In the other countries concerned they are not included in this group. In the Soviet Union, total expenditures on paid services are not broken down in detail. Despite such differences and inconsistencies, the available data make it possible to assess the trends and evolution of personal consumption patterns in the centrally planned economies of eastern Europe and the Soviet Union.

There are several reasons why it is interesting to study the structure of expenditures of an average household of workers and employees. First, workers, employees and members of their families, including some pensioners, constitute the biggest proportion of the population in the countries under examination. Second, data exist in all countries for this type of household—either for the households as a whole or per household member. For Czechoslovakia, Hungary and the Soviet Union, data on peasant household expenditures are also available.

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[308] Such definitions of personal consumption can be found in analytical publications, textbooks on statistics and the methodology of planning in the centrally planned economies of eastern Europe and the Soviet Union and also CMEA publications, for example, SEV, Postoyannaya Komissia po Statistike, *Osnovnye metodologicheskie polozhenia po statistike*, tom I, chast 2, Moscow, 1980 (*Basic Methodological Principles of Statistics*, CMEA, Standing Commission on Statistics, Moscow, 1980), pp. 179, 185, 191-192; *Metodicheskie ukazania k razrabotke gosudarstvennykh planov ekonomicheskogo i sotsialnogo razvitia SSSR*, Moskva 1980 (*Methodological Instructions* for the *Elaboration of State Plans of the USSR*), Moscow, 1980, p. 672; *Kurs sotsialno-ekonomicheskoi statistiki*; Moscow, 1982 (*Course of Social and Economic Statistics*), Moscow, 1982, p. 430; N. Rimashevskaya, S. Shatalin, "*Struktura lichnogo i obshestvennogo potreblenia v sotsialisticheskikh stranakh*" (*Structure of Personal and Social Consumption in the Socialist Countries*), *Voprosy ekonomiki*, 1975, No. 7, pp. 95-97; A. Lutov, B. Atanasov *et al.*, *Upravlenie na narodnoto potreblenie* (*The Management of National Consumption*), Sofia 1984, p. 61; K. Rozsypal and K. France "*Národohospodářské plánování*" (*National Economic Planning*), Prague, 1985, SNTL, p. 204.

TABLE 3.5.9

Retail trade turnover
(Indices, 1970 = 100)

	Total			Food products			Non-food products		
	1975	*1980*	*1984*	*1975*	*1980*	*1984*	*1975*	*1980*	*1984*
Bulgaria	145	177	205	139	157	177	150	194	231
Czechoslovakia	130	140	144	123	137	136	140	143	152
German Democratic Republic	131	159	165 [a]	119	140	154	144	179	193
Hungary	135	153	160	133	144	147	136	160	172
Poland	167	199	184	161	198	162	172	200	197
Romania	148	215	224 [b]	146	210	215 [b]	150	220	234 [b]
Soviet Union	136	169	189	129	154	166	144	188	216

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1984 (CMEA Statistical Yearbook 1984), Moscow, 1984, p. 281; *ibid.*, 1985, p. 311.

[a] 1983.

[b] 1981.

Changes in retail trade—total, food and non-food—presented in table 3.5.9 can be taken as one indicator of changes in personal consumption. The faster rise in the retail trade turnover of non-food products compared to that of food products was the main characteristic in all countries. This can generally be interpreted as a sign of improvement in the structure of personal consumption, since an increasing share of non-food products usually indicates a rising trend of living standards as a whole. However, the pace of change varied from country to country. Furthermore, changes in 1980-1984 did not necessarily coincide with those in the previous decade.

The structure of retail trade turnover shown in table 3.5.10 can be analysed by examining changes in the percentage shares of the two main sub-items. The biggest increase in the share of non-food products occurred in Hungary and the Soviet Union. The share of non-food products in the German Democratic Republic rose from 1970 to 1984 but fell slightly in 1984. In other countries, changes were influenced by the movement of consumer prices which tended to reduce the share of non-food products in 1984 as compared with 1980 or even 1975.[309] For example, in Bulgaria a 14 per cent average price increase for food in 1980 was the reason for the marked rise in the share of food products in retail trade turnover in 1980-1984 compared with 1975.

Despite its generally declining share in total retail trade, food still accounts for by far the biggest share of total personal consumption. This reflects efforts to improve nutritional standards. The structure of food consumption is not identical in all countries. Nevertheless, consumption patterns in all countries reviewed have developed in a broadly similar way (table 3.5.11).

Consumption of food products which are rich in protein (meat, milk and milk products and eggs) rose considerably, while that of food products of lower nutritional value (potatoes, flour products) fell. Consumption of sugar generally increased, and in some countries (for example in the Soviet Union) now may exceed the dietary optimum. Consumption of fresh vegetables and fruit also rose, but medically recommended levels have not been achieved.

Since practically all *non-food products* are sold through the retail trade network, the structure of purchases of these items reflects rather precisely the structure of their consumption. The data indicate a fall in the share of expenditures on clothing, footwear and textiles within the structure of personal consumption in all countries reviewed (table 3.5.12). However, the pace of change in the shares of the three subgroups, varied between countries.

The generally declining shares of clothing, footwear and textiles in retail trade taken together indicate that a growing share of non-food products was accounted for by consumer durables.

Table 3.5.13 demonstrates the fast increase in purchases of consumer durables in all countries, especially of motor cars. But there are a number of significant differences between countries. This reflects, in part, different levels of economic development and also varying foreign trade preferences. The highest level of consumer durable ownership is found in Czechoslovakia and the German Democratic Republic. However, faster growth of consumer durables purchases is a charac-

TABLE 3.5.10

Structure of retail trade
(Percentage share)

	1970		1975		1980		1984	
	Food	*Non-food*	*Food*	*Non-food*	*Food*	*Non-food*	*Food*	*Non-food*
Bulgaria	44.6	55.4	43.5	56.5	44.8	55.2	45.0	55.0
Czechoslovakia	50.3	49.7	47.5	52.5	46.9	53.1	47.0	53.0
German Democratic Republic	51.1	48.9	47.7	52.3	46.2	53.8	46.8	53.2
Hungary	44.1	55.9	41.9	58.1	41.7	58.3	38.9	61.1
Poland	43.9	56.1	42.5	57.5	43.5	56.5	45.8	54.2
Romania	49.1	50.9	49.4	50.6	48.5	51.5	53.4	46.6
Soviet Union	55.5	44.5	53.6	46.4	50.8	49.2	50.3	49.7

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1984 (CMEA Statistical Yearbook 1984), Moscow, 1984, p. 278; *ibid.*, 1985, p. 308.

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[309] Price increases for food products occurred in Bulgaria in 1980 and in Romania, Poland and Czechoslovakia in 1982.

TABLE 3.5.11

Per capita consumption of selected food products
(*Kilograms per year*)

	Bulgaria	*Czechoslovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Soviet Union*
			Meat and meat products			
1970	43.7	71.9	66.1	58.1	61.2	48
1980	64.9	85.6	89.5	71.7	82.1	58
1984	75.4	85.0	94.4	78.0	63.6	60.4
			Eggs (number)			
1970	122	277	239	247	186	159
1980	204	316	289	317	223	239
1984	237	332	303	327	210	256
			Sugar			
1970	32.9	37.7	34.4	33.5	39.2	38.8
1980	34.7	37.5	40.6	37.9	41.4	44.4
1984	35.5	37.5	39.1	35.0	45.0	44.3
			Bread and meal products (flour equivalent)			
1970	174	113	97	128	..	149
1980	160	107	95	115	127	138
1984	149	109	100	110	124	135
			Vegetables (fresh)			
1970	118	76	85	83	..	82
1980	125	66	94	80	101	97
1984	132	73	92	78[a]	116	103
			Potatoes			
1970	25.9	103	154	75.1	190	130
1980	26.6	76.1	143	61.2	154	109
1984	30.0	78.5	146	58	149	110

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 66-67.

[a] 1983.

teristic feature of the countries which had the lowest levels of ownership at the beginning of the period. The highest growth in stocks of consumer durables per thousand inhabitants was in Romania.

Similar trends in the structure of consumption emerge from analyses based on statistics of household expenditures, which also include paid services (table 3.5.14). For workers' and employees' households, expenditures on food and non-food products constitute the biggest part of the total, ranging from 52 per cent in Czechoslovakia to 69 per cent in the German Democratic Republic in 1984. For peasant households, the combined share rose to between 58 per cent in Czechoslovakia and to about 67 per cent in Hungary and the Soviet Union, by 1983 or 1984. However, the changes in the percentage shares of these two items varied by country.

In Bulgaria and the Soviet Union food products took the biggest share of expenditures for both population groups throughout the whole period.

The expenditure structures of workers' and employees' households in Czechoslovakia and the German Democratic Republic showed a similar pattern in the 1970s. However, at the end of the decade and in the early 1980s they began to diverge, the percentage share of expenditure for non-food product consumption exceeding that of food in the German Democratic Republic but not in Czechoslovakia.

In both groups of households in Hungary, and peasants' households only in Czechoslovakia, expenditures for non-food products were higher than for food over the whole period.

Nevertheless, the general trend of total household expendi-

TABLE 3.5.12

Purchases of non-food products
(*Percentage share in retail trade of non-food products*)
A: Clothing, B: Footwear, C: Textiles

	1970			*1980*			*1984*		
	A	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
Bulgaria	18.2	6.1	9.0	16.5	5.0	6.2	15.1	5.0	4.8
Czechoslovakia	17.6	5.6	3.4	15.8	4.7	2.6	14.2	4.7	1.9
German Democratic Republic ...	15.1	4.4	..	14.6	4.2	..	13.7	4.4	..
Hungary	15.8	5.2	2.3	11.4	3.7	1.6	9.6	3.6	1.3
Poland	15.8	5.4	5.2	11.5	4.0	4.0	8.7	4.3	2.0
Romania.......................	21.3	8.4	11.8	23.4	7.2	8.3	..	..	..
Soviet Union	33.2	11.1	6.8	28.4	9.1	5.6	27.8	8.9	4.7

Sources: Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985), Moscow, 1985, pp. 307-318

TABLE 3.5.13

Stocks of selected consumer durables in 1984

A: Increase (Index, 1970 = 100); B: Number per thousand inhabitants

	Refrigerators		*Washing machines*		*Television sets*		*Motorcars*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Bulgaria	343	278	186	263	230	276	641	109
Czechoslovakia	213	377	175	484	174	407	284	162
German Democratic Republic	238	512	184	377	163	451	298	179
Hungary	315	325	189	339	159	272 [a]	585	123
Poland	194 [b]	310	135 [b]	347	139 [b]	333	347 [b]	66
Romania	342	156 [c]	283	102 [c]	207	210 [c]	620	29 [c]
Soviet Union	307	274	145	205	202	289	..	..

Sources: *Statisticheskii ezhegodnik stran-chlenov SEV 1985 (CMEA Statistical Yearbook 1985)*, Moscow 1985, p. 68; *Anuarul Statistic al Republicii Socialiste România 1985*, Bucharest, 1985 p. 50; United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, United Nations, New York 1982, p. 280

[a] Number of subscribers.

[b] 1975-1984.

[c] 1980.

TABLE 3.5.14

Structure of household expenditure

(Percentage shares)

A: Worker and employee households; B: Peasant households

	Bulgaria				*Czechoslovakia*								*German Democratic Republic*			
	1970	*1975*	*1980*	*1984*	*1970*		*1975*		*1980*		*1984*		*1970* [a]	*1975*	*1980*	*1984*
	A	*A*	*A*	*A*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*A*	*A*	*A*
1. Food and food products	35.7	34.0	41.1	38.1	32.8	27.5	29.6	28.4	26.9	27.2	25.1	24.2	36.4	37.2	35.7	34.4
2. Non-food products of which:	15.9	17.5	18.7 [b]	18.2 [b]	25.6	34.2	27.4	34.5	26.6	33.6	27.1	34.2	28.8	36.2	36.8	34.8
— clothing, footwear, textiles	9.7	9.4	9.0	8.3	10.5	12.4	10.1	11.2	9.8	11.2	8.8	10.0	12.3	14.9	13.1	12.6
— industrial goods including consumer durables	6.2	8.1	9.7 [b]	9.9 [b]	815.1	21.8	17.3	23.3	16.8	22.4	18.3	24.2	16.5	21.3	23.7	22.2
3. Power, water, rent	7.3	5.8	6.2	6.4	3.7	1.6	4.0	2.3	5.3	3.9	5.2 [c]	4.0 [c]	4.5	4.9	4.3	4.3
4. Transport, communication	3.2	2.8	..	..	2.7	2.0	2.4	1.8	2.4	1.8	2.3 [c]	1.7 [c]	1.7	1.3	1.2	1.2
5. Medical care	1.5	1.6	1.7	1.7	1.9	1.0	2.1	1.3	2.5	1.8	2.6 [c]	1.9 [c]	..	..	..	..
6. Socio-cultural services including education	4.3	3.9	3.1	3.1	0.9	0.7	0.8	0.6	0.6	0.5	0.6 [c]	0.5 [c]	2.5	3.5	3.4	3.5
7. Other services	..	..	..	..	3.6	4.9	3.1	4.0	3.1	3.9	3.0 [c]	3.7 [c]	3.6	3.7	3.9	4.1
8. Other expenditures including savings	32.1	34.4	29.3	32.5	28.8	28.1	30.6	27.1	32.6	27.3	34.2	27.6	22.6	13.2	14.7	17.7

	Hungary						*Soviet Union*							
	1975		*1980*		*1983*		*1970*		*1975*		*1980*		*1984*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
1. Food and food products	32.6	33.3	34.2	35.7	32.1	32.8	41.4	45.3	38.4	42.3	37.5	40.1	35.8	37.5
2. Non-Food products of which:	37.8	33.6	36.4	30.4	38.8	33.8	26.3	28.2	27.5	29.5	28.8	29.7	28.6	28.9
— clothing, footwear, textiles	12.0	10.2	9.1	8.2	8.4	7.6	18.4	17.6	18.5	17.9	19.3	18.4	18.5	17.4
— industrial goods including consumer durables	25.8	23.4	27.3	22.2	30.4	26.2	7.9	10.6	9.0	11.6	9.5	11.3	10.1	11.5
3. Power, water, rent	6.0	4.0	6.3	4.6	5.9	4.6	3.0	..	3.0	..	3.2	..	3.2	..
4. Transport, communication	3.2	1.4	3.2	1.6	3.1	1.9								
5. Medical care	1.0	0.3	0.9	0.5	0.8	0.4								
6. Socio-cultural services including education	2.4	0.7	2.8	0.8	2.8	1.0	7.9 [d]	4.7 [d]	7.8 [d]	5.1 [d]	7.6 [d]	5.0 [d]	7.6 [d]	5.0 [d]
7. Other services	2.5	2.4	1.9	2.0	1.6	2.5								
8. Other expenditures including savings	14.5 [e]	24.3 [e]	14.3 [e]	24.3 [e]	14.8 [e]	22.7 [e]	21.4	21.8	23.3	23.1	23.0	25.2	25.0	28.6

Source: National statistical yearbooks, various issues; for Czechoslovakia, Historická statistická ročenka ČSSR, Prague, 1985, table 20-15.

[a] From 1970-1974 expenditures for wage taxes and obligatory contributions to social insurance are included in household expenditures

[b] Including transport services.

[c] 1983

[d] Paid services.

[e] Including real estate purchases

ures in all countries was characterized by a decrease in the share of expenditures on food.

Thus, expenditures on non-food products, especially for consumer durables, rose. The share of housing and rent, notably in the Soviet Union, were very low, and the already small share of expenditures for medical care decreased in some countries. In spite of some differences in the share of individual items, structural changes in urban and rural areas generally developed in the same directions.

Declining shares of expenditure for food products consumption can be explained by rising money incomes and also by the overall level of satisfaction of food requirements. Low levels of expenditures on housing, medical care and also for rent is due to the fact that rents, housing construction costs and the consumption of power and water are subsidized by the state, while medical care is generally supplied free of charge. Finally, differences in household expenditures in urban and rural areas reflect differences in income levels and incomes structure between the two groups of the population examined (“workers and employees”, and “peasants”).

Within the structure of expenditures on non-food products, a common feature in all the countries concerned is the increase in the share of industrial goods and consumer durables and a continous fall in the share of expenditures on clothing, footwear and textiles. In the Soviet Union, the share of expenditures on clothing and footwear remained practically stable over the whole period. Some, probably temporary, decrease in the share of expenditures on industrial goods occurred in Czechoslovakia and the German Democratic Republic in the early 1980s.

3.6 FOREIGN TRADE AND PAYMENTS

After several years of strong expansion, exports of the centrally planned economies turned down in 1985. Import growth remained strong, and trade balances narrowed, but generally remained in surplus. These developments are reviewed in subsection (i). The short-term outlook is affected significantly by the oil price decline in early 1986, on the whole negatively (subsection (ii)).

(i) Recent developments in trade and external balances

The foreign trade sector of the European centrally planned economies ran into a difficult stretch in 1985, after two years of rapid expansion in which export growth had generally outpaced that of imports and the external position of most countries of the group had improved. As in the rest of the world economy, trade activity slowed significantly in the eastern part of the ECE region in 1985. Exports of the Soviet Union in fact declined, and expansion slowed to a crawl in most other countries of the group. As import growth was maintained or accelerated in many of these countries, trade balances—a surplus in most cases—generally deteriorated.

The factors responsible for these developments were partly internal to the European CMEA region and partly emanations of global economic changes. At the end of the period under review, a slide in world market oil prices set in, which is likely to affect profoundly the prospects for the economies and the foreign trade of the European centrally planned economies.

These developments will be examined in the following sections. Changes in the overall volume of trade, in trade prices and the terms of trade, and in external balances will be reviewed in succession. Thereafter, some aspects of changes among the centrally planned economies will be examined.[310] A final part will be devoted to a discussion of the most recent oil market developments and their possible impact on the trade outlook of the centrally planned economies. East-west trade will be dealt with in greater detail in chapter 4 below.

This review will be conducted in terms of volume changes wherever feasible, even though this involves a substantial amount of estimation in the case of data for the past year. Information on recent changes in trade value is shown for reference purposes in a table placed at the end of the present section.[311]

A downturn in trade volume

A notable feature of the foreign trade development in the European centrally planned economies in 1985 was the sharp deceleration in the pace of export volume growth in all countries of the group. In the case of the Soviet Union, as already noted, export volume actually contracted (table 3.6.1). Imports into the east European countries, as well as into the Soviet Union, continued to expand at a relatively high rate—well ahead of the growth of net material product in all countries but Czechoslovakia and the German Democratic Republic. In the face of the slowing of output growth in 1985, external supplies thus made a contribution to the maintenance of economic activity.

The exceptionally severe winter, which caused disruptions in production and transport in the region, contributed significantly to the faltering of trade expansion. The first quarter of the year saw a steep decline in almost all trade flows by comparison with the same period of 1984. This was particularly pronounced in Soviet exports, both to the centrally planned and to the market economies. Owing to their high raw material and fuel content and bulkiness, these exports are especially vulnerable to such disturbance. In the case of eastern Europe, export growth resumed in subsequent quarters, but not with sufficient strength—in particular as concerns exports to the market economies—to compensate for the first-quarter performance. Soviet exports, on the other hand, remained below the levels of the preceding year throughout the ensuing periods, which indicates that factors other than the winter disruptions were at work. Import flows were also depressed in the winter quarter, but rose rapidly through the rest of the year in eastern Europe. In the Soviet Union, their expansion seemed to have slowed again towards the end of the year after a spurt in the spring.

Though export growth to both centrally planned and market economies declined, the change of pace was much sharper in trade with the developed and developing market economies. Soviet exports to centrally planned economies stagnated whereas those to the market economies fell by some 11 per cent in 1985; in the case of eastern Europe, exports to other socialist countries merely slowed, but those to the market economies barely rose above the level of the year before, after double-digit growth in the preceding two years (table 3.6.2). By contrast, imports from the market economies actually grew at higher rates in both eastern Europe and the Soviet Union—at some 8 and 3 per cent respectively, which represents a slight acceleration in the former case and a substantial pick-up from stagnant imports in the latter.

It is evident that the 1985 results constituted a major setback in the performance of the external sector of the *Soviet Union*. Exports turned down significantly in volume for the first time since at least 1950, largely owing to supply difficulties which centered on the raw materials and fuels that make up well over

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[310] For reasons of data availability for the last year in particular and as concerns the estimation of volume and structural changes, the breakdown of trade partners used in the text and tables of this section differs somewhat from that employed normally in UN statistics and especially in sections 4.2-4.4 below (see table 3.6.8, note a). Exceptionally, and following the practice of the national statistical sources of the European centrally planned economies, Yugoslavia is here included in the data on trade with the "socialist economies". Trade with the "market economies" refers to trade with all developed and developing countries not included in the "socialist" trade aggregate.

[311] Table 3.6.8 (see also appendix tables C.4 and C.5, which provide information on trade levels, 1970-1985, in a somewhat different breakdown of trade partners). For the sake of comparability with other value data in this *Survey* and other international sources, those shown here generally reflect values measured in US dollars even for trade flows largely conducted in other currencies (e.g., intra-CMEA trade conducted in roubles, in particular). Consequently, value changes will differ—often substantially—from those shown in national sources. More significantly, owing to large differences between countries in exchange rate adjustments against the dollar and the rouble (and the resulting cross-rate variations), this procedure tends to reduce the cross-country comparability of value changes in rouble-area trade flows.

TABLE 3.6.1

Eastern Europe and the Soviet Union: volume of foreign trade, by country, 1983-1985

(*Annual percentage change*)

	Exports			Imports		
	1983	1984	1985 [a]	1983	1984	1985 [a]
Bulgaria	4.4	11.6	4.0	5.2	5.6	6.5
Czechoslovakia	5.7	8.5	2.5	2.0	4.8	3.0
German Democratic Republic	10.6	3.7	2.0	5.3	5.7	2.0
Hungary	9.4	5.8	1.0	3.9	0.1	2.0
Poland	10.3	9.5	1.7	5.2	8.6	6.8
Romania	0.9	15.0	2.0	−5.0	9.9	10.0
Eastern Europe	7.4	8.3	2.1	3.4	5.6	4.6
Soviet Union	3.3	2.5	−4.0	4.0	4.4	5.0
Eastern Europe and Soviet Union	5.7	6.0	−0.5	3.7	5.0	4.8

Source: Appendix table B.15.

[a] Preliminary national data and ECE secretariat estimates.

TABLE 3.6.2

Eastern Europe and the Soviet Union: volume of foreign trade by direction, 1983-1985

(*Annual percentage change*)

	Exports			Imports		
	1983	1984	1985	1983	1984	1985
Eastern Europe, to or from:						
World	7	8	2	3	6	4
Socialist economies	6	7	4	3	6	2
Market economies	10	11	1	6	7	8
Soviet Union, to or from:						
World	3	3	−4	4	4	5
Socialist economies	1	4	1	3	8	7
Market economies	7	—	−11	5	—	3

Source and country groups: As for table 3.6.7.

60 per cent of Soviet exports. [312] Fuels—notably oil and oil products—provide their bulk, and the combination of a downturn in oil production and probably higher domestic consumption caused by the severe winter conditions undoubtedly explains the year's export performance. But demand for oil and oil products in western markets—which take just under one half of Soviet fuel and energy exports (in rouble value terms)—was also weak and prices were on the decline. Nonetheless, the decline in the volume of fuel exports to these markets, accounting for the bulk of the volume decline in Soviet exports, was far larger than the contraction of the market. [313]

The steep fall in the volume of Soviet exports to the market economies affected trade with developed market economies and developing countries almost equally. Soviet imports from both groups rose, also moving at a rather similar pace. The changes in trade with the developed market economies will be reviewed in some detail below (section 4.2 on east-west trade). The causes of the substantial drop in Soviet exports to the developing countries are not clear at the moment, but may involve the decline in the import capacity of oil-exporting countries. [314] Soviet exports to these countries should be much less affected by developments on the supply side—in Soviet materials production—than exports to the developed market economies since a much larger share of these flows consists of manufactured goods.

In *eastern Europe*, all countries shared in the slowing of export growth, but in import expansion there was more variety, probably reflecting differences in policy (table 3.6.1). The change of pace in exports was especially pronounced in Bulgaria, Czechoslovakia and Poland. Import growth remained high in Bulgaria, where it may have accelerated, in Poland, and possibly in Romania, whereas it slowed in Czechoslovakia and probably in the German Democratic Republic. [315] In all countries but the German Democratic Republic, the volume of exports to centrally planned economies maintained a higher expansion rate than exports to the market economies. The opposite seems generally to be true on the import side, again with the exception of the German Democratic Republic.

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[312] Full 1985 trade results for the Soviet Union are not available yet. Over the first nine months, earnings from fuel exports fell by some 6 per cent and accounted for 93 per cent of the decline in total earnings; minerals and metals exports also declined, by 17 per cent in value, accounting for 34 per cent of the overall drop in export value. Increased exports of machinery and chemicals provided a partial offset.

[313] In the first three quarters of 1985, oil and oil product imports of the OECD countries declined by some 4 per cent in volume, and those of the European OECD countries by some 2 per cent (IEA, *Oil and Gas Statistics*, 1985, No. 4). Western imports of Soviet oil and oil products in the same period were down some 20 per cent (section 4.2, below).

[314] Soviet trade returns for exports to developing countries specify only about 50-60 per cent of the aggregate flow by country of destination. A fall of $1.5 billion in this unspecified residual accounts for most of the drop in Soviet exports ($1.7 billion) in the January-September 1985 period, but oil countries account for about one half of the remaining decline.

[315] The German Democratic Republic and Romania have so far made public only data on total exports and imports, expressed in national currency. Since these countries do not publish within-year trade returns by origin and destination, statements on changes in the major trade flows reflect ECE secretariat estimates based on the available totals and partner data from the main CMEA and OECD trade partners. Only scattered data are available on trade with developing countries; hence this category is here treated as a residual. Accordingly, these estimates involve a considerable error margin.

This difference between markets is mirrored in the behaviour of trade balances: in most countries, deficits in trade with the centrally planned economies—and in particular with the Soviet Union—diminished or surpluses increased. Only in the case of Poland was there an increase in the important deficit with the Soviet Union, and in the German Democratic Republic the surplus with the Soviet Union appears to have narrowed substantially. In most countries surpluses with the market economies narrowed or deficits increased (with Hungary swinging from surplus into deficit). Only in Poland did both balances move in the same direction. This could suggest that in 1985 intra-CMEA adjustment came seriously to the fore in trade policy decisions, following the external adjustment in the relationship with the market economies which had dominated trade development in 1982-1984. This might have been facilitated to some extent by a shifting of balances between the two trading areas (at least in the case of Bulgaria and Hungary, where a deficit in trade with the market economies re-emerged). However, given the disturbances which affected trade flows in 1985, it is at least possible that this was not entirely by design.

Disturbances from outside the economic sphere have played a significant role in the 1985 trade development of several east European economies, affecting both the supply of exportables and the demand for imports. The impact of the severe winter has already been mentioned: it simultaneously raised domestic fuel and energy requirements and reduced supplies from the Soviet Union, thus necessitating additional imports, usually from the convertible currency area. A prolonged drought further reduced energy (hydro-electricity) supplies in some countries, as well as affecting the harvest and thus trade in agricultural goods.

Other disturbances were also beyond policy control by the east European countries, such as the deterioration in the import capacity of certain trade partners, especially among the fuel exporting developing economies. But apart from these factors, a low success rate in the implementation of domestic policies aimed at raising the export orientation of production activities played a role in most countries.[316]

Trade development in Bulgaria and Hungary (and probably also in Romania) were particularly affected by both the energy squeeze stemming from the winter and/or the drought and by the harvest outcome. In Bulgaria, a substantial rise in imports of fuels and agricultural products accounted for the bulk of the 22 per cent increase in the dollar value of imports from the non-CMEA economies, and a fall in the export of these product groups was responsible for the 2 per cent decline in the value of Bulgarian exports to these countries in the first three quarters of 1985.[317] In Hungary, a fall in (the relatively unimportant) energy exports accounted for over 60 per cent of the downturn in the dollar value of exports in convertible currency trade, and a drop in agricultural exports for another 35 per cent (with a partial offset in machinery exports).[318] In both countries, these trade flows turned into deficit in 1985. In Poland, a substantial drop in fuel exports also played a role in the 4 per cent decline of exports to the market economies, but declining sales of engineering products contributed more strongly to the outcome; apart from recessionary tendencies and protection in foreign markets, this is mainly attributed to the weak impact of export incentives.[319]

Generally neutral price changes

Price movements in the external trade of the centrally planned economies varied between markets. For the east European countries, the overall terms of trade effect appears to have been approximately neutral in 1985, in contrast to the preceding years in which these economies experienced significant terms of trade losses. The Soviet Union probably still had a small terms of trade gain.

Overall price movements in the trade of these countries reflect an average of movements in current world market prices and of changes in intra-CMEA prices which adjust with a lag to the former. In recent years, the CMEA formula of absorbing past world market price changes in the form of a five-year moving average has led to price movements which went in opposite directions in the two markets: while world market prices in dollar terms have been falling, those in the CMEA market continued to rise, albeit at a slowing pace. In particular, in 1985 fuel prices were still advancing somewhat faster than prices of other goods. This resulted in a small terms of trade gain for the Soviet Union and a corresponding loss for the east European countries (table 3.6.3). In trade with the market economies, import prices for the centrally planned economies appear to have fallen somewhat faster than export prices, yielding small terms of trade gains on this part of their trade. This appears to be true even for the Soviet Union, where the modest year-over-year slide in oil prices was more than offset by price developments in the country's imports from world markets.[320]

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[316] The failure to increase the responsiveness of enterprises to stimuli from external markets has recently been much noted in economic discussions as well as in policy statements in the east European countries. Thus, in Czechoslovakia, Prime Minister Strougal, in his presentation of the draft five-year plan, expressed dissatisfaction with the effectiveness of export activity and called for changes in the economic mechanism as preconditions for an improvement (*Rudé právo*, 30 November 1985). In Hungary, Professor J. Bognàr, as chairman of a parliamentary commission on planning and budget issues, in a similar manner put stress on a malfunctioning of economic regulators (*Népszabadság*, 21 December 1985). A passage from the Hungarian five-year plan relating to the same issue has been quoted earlier (section 3.1). In Poland, the head of the Planning Commission, M. Gorywoda, announced a number of new incentive schemes "to raise the interest of enterprises in the development of exports and improving its effectiveness" (*Rzeczpospolita*, 22 December 1985); as noted below, the faltering of convertible-currency exports in that country in 1985 was ascribed to the feeble impact of existing instruments (*Zycie gospodarcze*, 16 February 1986).

[317] Data refer to the commodity structure of Bulgarian foreign trade in a breakdown by CMEA and non-CMEA partners in the first three quarters (KSI, *Statisticheski izvestiia*, 1985, No. 3). The large changes mentioned are in the "fuels, minerals and metals" grouping, but can be assumed to be related mainly to changes in fuels trade. Similar proportions are likely to hold for the year as a whole: Bulgarian imports from seven OPEC countries rose by 48 per cent in 1985, accounting for over 80 per cent of the rise in imports from the developing economies (KSI, *Iznos i vnos*, 1985, No. 4).

[318] KSH, *Statisztikai havi közlemények*, 1986, No. 1. In the early part of the year, Hungary had to import fuels on an emergency basis for convertible currencies to get through the winter, but for the year as a whole fuel imports in both the rouble and the convertible currency trade declined in volume. A 70 per cent drop in the value of imports from six OPEC countries points to much reduced oil imports (and re-exports) as the development underlying the observations made in the text.

[319] *Zycie gospodarcze*, 16 February 1986. Sales of machinery and equipment to the convertible currency market are often considered too difficult by enterprises, given the easier rewards obtainable in domestic sales and exports to the rouble market. A 13 per cent increase in the value of machinery and equipment sales on the rouble market in fact accounts for the largest part of the increment in Polish exports in this direction.

[320] The weakness of international foodstuff — especially grain — prices is reflected in this result.

TABLE 3.6.3

Eastern Europe and the Soviet Union: unit values and terms of trade
(Annual percentage change)

	Rouble trade [a]				*Convertible currency trade* [b]			
	1982	*1983*	*1984*	*1985*	*1982*	*1983*	*1984*	*1985*
Eastern Europe								
Export unit values	6	5	4	3	–6	–7	–6	–3
Import unit values	11	8	5	4	–4	–8	–4	–4
Terms of trade	–4	–3	–1	–1	–2	1	–2	1
Soviet Union								
Export unit values	12	10	7	4	–6	–5	–3	–4
Import unit values	8	6	5	3	–8	–5	–5	–5
Terms of trade	4	3	2	1	2	1	2	1

Source: table 3.6.7.

[a] Unit value change measured in rouble terms.

[b] Unit value change measured in US dollar terms.

Narrowing trade surpluses

The changes in trade flows described above resulted in a significant decline in the aggregate trade surplus of the centrally planned economies, from $18 billion in 1984 to some $9 billion in 1985. The change was mainly due to the experience of the Soviet Union, whose external surplus declined from $11 billion to $4 billion (table 3.6.4; see also table 3.6.8 for country data).

In eastern Europe, all countries but Bulgaria and Czechoslovakia remained in overall surplus, but except for the German Democratic Republic all experienced a narrowing of the surplus. The combined trade balance of the eastern European countries with the market economies remained in surplus, though at $5 billion some $2 billion smaller than in 1984. Bulgaria and Hungary again swung into deficit in this relationship. Eastern Europe's trade balance with the Soviet Union may have swung into a small surplus in 1985—a 0.7 billion rouble turnround from the 1984 position, owing mainly to surplus positions of Hungary, Romania, and possibly the German Democratic Republic. [321]

Shifts in intra-CMEA trade

As noted at the beginning of this section, volume data employed in the present review refer to the aggregate of "socialist" trade partners used in national statistics, which includes the Asian centrally planned economies, Cuba and Yugoslavia in addition to the European CMEA countries. Especially in the case of the Soviet Union, this aggregate reflects the very rapid recent expansion in trade with China, as well as changes in the important exchanges with Cuba and Yugoslavia. To focus on the more narrowly intra-area exchanges, data on changes in the first three quarters of 1985 in the value of trade of the European centrally planned economies with each other and the remaining socialist countries are shown in table 3.6.5. Value is here measured in rouble terms, in order to eliminate the impact of the fluctuations of national exchange rates against the dollar which to some extent distort the picture conveyed by the data on intra-area trade in table 3.6.8.

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[321] Soviet data, which in the past have always indicated a considerably larger Soviet surplus than the partner data, still show an east European deficit, albeit one that has been approximately halved from last year (to some 1 billion roubles).

TABLE 3.6.4

Eastern Europe and the Soviet Union: trade balances, 1981-1985
(Billions of US dollars)

					Jan.-Sept.		
	1981	*1982*	*1983*	*1984*	*1984*	*1985*	*1985* [a]
Eastern Europe with:							
World	–2.7	4.4	6.0	6.9	4.9	4.2	5.1
Socialist countries	–3.1	–0.8	–0.2	–0.1	–	0.5	0.1
Developed market economies	–2.9	1.3	3.2	4.0	2.9	2.1	2.6
Developing countries	3.4	3.9	3.0	2.9	2.0	1.6	2.5
Soviet Union with:							
World	6.2	9.3	11.2	11.1	7.8	0.6	4.0
Socialist countries	6.2	4.6	5.4	4.8	3.4	1.2	2.5
Developed market economies	–1.2	–0.1	1.3	2.2	2.2	–1.2	–0.8
Developing countries	1.2	4.8	4.5	4.2	2.2	0.7	2.4

Source and country groups: As for table 3.6.8.

[a] Preliminary estimates.

TABLE 3.6.5

Eastern Europe and the Soviet Union: value growth of trade with socialist countries, in rouble terms
(Annual percentage change)

	Eastern Europe				*Soviet Union*			
	Exports		*Imports*		*Exports*		*Imports*	
Destination or origin	*1984*	*1985*	*1984*	*1985*	*1984*	*1985*	*1984*	*1985*
Socialist countries.......	11.6	7.4	11.0	5.7	11.6	4.4	13.4	10.9
Eastern Europe.......	9.6	6.3	9.5	6.5	11.1	3.3	10.7	6.7
Soviet Union.........	11.2	7.4	11.3	4.3	..	..	..	..
Other...............	22.6	11.7	15.7	13.7	13.4	8.2	25.5	26.6

Source: As for table 3.6.8. Growth rates for 1985 refer to January-September, relative to the same period of 1984.

It is evident from these data that the general slowing of trade growth in 1985 has not left the intra-area exchanges untouched, though the main impact was on the volume of east European imports from the Soviet Union. However, it should be noted that price changes in intra-CMEA trade have also slowed between 1984 and 1985. As concerns the exchanges among the east European countries, rouble prices probably rose at some 4 per cent in 1984 and some 2-3 per cent in 1985; on this basis the volume of trade among the six countries may still have expanded at some 3-4 per cent in 1985, as against growth of about 5 per cent in the preceding year. In trade between the east European countries and the Soviet Union, east European import prices probably advanced at some 3-4 per cent, as against some 7 per cent in 1984; this reflects the near-completion of the absorption of the 1980 oil price shock into the CMEA foreign trade price system. On this basis it can be estimated that after a significant increase in 1984, the volume of east European imports from the Soviet Union stagnated or declined slightly in 1985; east European exports to the Soviet Union on the other hand probably rose some 3-4 per cent in volume.

(ii) Short-term outlook

Trade policies and plans for 1986

Improvements in the external balance remain on the agenda in several of the east European countries, especially after the experience of 1985 which included significant shortfalls from current-account surplus targets in some cases. This applies notably to Hungary and Poland, especially the latter which ran into difficulties meeting debt service schedules in 1985. Targets for the relative growth of exports and imports (table 3.6.6) reflect this endeavour. In both countries import expansion is to remain below output growth, as appears also to be the case in Czechoslovakia.

Export targets or trade turnover targets in the countries using this formulation appear to reflect the expectation of only very modest trade acceleration or a further slowing in the coming year. It should be noted, however, that this interpretation puts rather more weight on a comparison of these numbers than it deserves. The trade assumptions built into the annual plans of the centrally planned economies are generally not discussed in detail, and the relevant indicators are difficult to interpret. In particular the targets for "turnover" (exports plus imports), which may be in value or volume terms, frequently do not even permit an inference about the expected direction of change.

Oil market collapse 1986: a new environment

The fall in the world market oil price at the beginning of 1986 is of large potential significance for the foreign trade of the European centrally planned economies. In the case of the Soviet Union, as a net fuel exporter on a large scale, the impact is likely to be mainly detrimental, whereas for the east European countries the balance of effects, especially in the longer run, may be more beneficial.

It is too early to attempt a quantification of the impact of these events, which in any case have not played themselves out yet. But it may be useful to indicate the dimension of change which would result if the market situation stabilized for the remainder of the year at the point reached in mid-February, with a 30-40 per cent drop in the spot market price of oil applicable to the bulk of transactions.

On the assumption of an unchanged export basket, this would for the Soviet Union mean a proportional export revenue loss on the crude oil and products sold at world market conditions. In 1984, this component of Soviet exports provided over one fifth of total Soviet export revenues, about 48 per cent of its income from the market economies, and well over 60 per cent of the export revenue from the developed market economies (where most of this oil is actually sold).[322] On the reduced 1985 oil sales of some $12 billion, the price effect would come to some $4-$5 billion, or about 17-22 per cent of Soviet export income from the developed market economies. Downward pressure on natural gas prices, which are likely to ensue, would add to this loss.

If world market prices stabilized at the new levels, intra-CMEA prices for Soviet energy exports would also be affected, though under the five-year moving average formula used in CMEA price formation the impact would be spread out over a number of years.

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[322] Total fuel and energy sales accounted for 54 per cent of Soviet export revenues in 1984, with shares of 51 per cent in sales to socialist countries, at least 79 per cent in sales to developed market economies and over 13 per cent in sales to developing countries (groupings as defined for this section). Oil and oil products accounted for the bulk of this, as noted in the text, most of the remainder being taken up by natural gas. Similar figures for 1985 are likely to be somewhat lower.

TABLE 3.6.6

Eastern Europe and the Soviet Union: foreign trade, planned and actual, 1985-1986
(*Annual percentage change*)

	Plan 1985			*Actual 1985*				*Plan 1986*		
				Value		*Volume*				
	Turnover	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Turnover*	*Exports*	*Imports*
Bulgaria	4.5	..	..	5.8	9.0	4.0	6.5	5.0	..	..
Czechoslovakia	..	1.2*	5.7*	4.9	5.8	2.5	3.0	..	3.5*	3*
German Dem. Rep.	8.0	..	..	3.4*	3.6*	2.0	2.0	5.0	..	..
Hungary	..	5-6	2-3	2.6	5.0	1.0	2.0	..	3-4	1-2
Poland	..	7	7-8	26.5	31.4	1.7	6.8	..	4-5	2-3
Romania	15.0	..	..	−15.7	−7.7	2.0	10.0	12-15	..	..
Soviet Union	..	..	..	−4.4*	6.9*	−6.0	6.0	4.9	..	..

Source: *Plan targets* from national plan documents, explanatory speeches and other official announcements; 1985 *volumes* as for table 3.6.7, *values* as for table 3.6.8.

Note: Value changes are measured in terms of national currencies.

The countries of eastern Europe would in the first round also find their energy export revenues reduced by the price fall. As noted below (section 4.2), fuel exports—including petroleum and products based on the processing of imported crude—constitute a relatively significant component of exports to the developed market economies. But, this share is much smaller than in the case of the Soviet Union, and to the extent that it is based on imports from the world market, purchase prices would also decline. The east European countries would, on the other hand, stand to gain relatively more than the Soviet Union from the expected upturn in economic activity, and therefore external demand, in the developed market economies—especially in western Europe. In the longer run, the oil price drop should thus benefit these countries if their terms of trade in the CMEA market improved.

Some implications of these recent developments are considered in greater detail below in section 4.4.

TABLE 3.6.7

Eastern Europe and the Soviet Union: change in foreign trade value, volume, unit values and terms of trade, by major partner region, 1982-1985
(Annual percentage change)

	Exports				Imports			
	1982	*1983*	*1984*	*1985*	*1982*	*1983*	*1984*	*1985*
					Eastern Europe			
Total trade								
Value [a]	4.0	5.0	3.7	1.1	−4.1	3.1	2.7	3.5
Volume	6	5	8	2	−5	3	6	4
Unit values [a]	−2	7	−4	−1	−	−	−3	−1
Terms of trade	−2	−2	−2	−	..	..	..	..
of which:								
Trade with socialist countries								
Value [b]	12.3	11.3	11.6	6.9	7.8	10.4	11.0	6.2
Volume	6	6	8	4	−3	3	6	2
Unit values [b]	6	5	4	3	11	8	5	4
Terms of trade	−4	−3	−1	−1	..	..	..	..
Trade with developed and developing market economies								
Value [a]	−0.5	1.9	4.5	−2.8	−16.2	−1.7	2.6	4.0
Volume	6	10	11	1	−13	6	7	8
Unit values [a]	−6	−7	−6	−3	−4	−8	−4	−4
Terms of trade	−2	1	−2	1	..	..	..	..
					Soviet Union			
Total trade								
Value [a]	9.6	5.1	−0.2	−5.1	6.2	3.3	−0.1	3.0
Volume	5	3	3	−4	7	4	4	5
Unit values [a]	5	2	−3	−1	−1	−1	−4	−2
Terms of trade	4	2	2	1	..	..	..	..
of which:								
Trade with socialist countries								
Value [b]	9.4	10.5	11.6	5.2	15.2	9.3	13.4	10.4
Volume	−3	1	4	1	7	3	8	7
Unit values [b]	12	10	7	4	8	6	5	3
Terms of trade	4	3	2	1	..	..	..	..
Trade with developed and developing market economies								
Value [a]	10.9	1.6	−2.6	−15.0	−2.1	−1.1	−4.6	−3.4
Volume	18	7	−	−11	6	5	−	3
Unit values [a]	−6	−5	−3	−4	−8	−5	−5	−5
Terms of trade	2	1	2	1	..	..	..	..

Source: As for table 3.6.8.

Note: Value and unit value changes for total trade and for trade with the market economies are expressed in terms of US dollars, whereas value and unit value changes in trade with socialist countries reflect value measures in transferable roubles. All *unit value* and *terms-of-trade* indices were derived from the value and volume figures. Apparent inconsistencies between the four indicators for any given year reflect separate rounding after calculation from unrounded numbers. All figures for 1985 are ECE secretariat estimates.

Eastern Europe: Volume indices for *total trade* from national statistical sources have been aggregated with weights reflecting the individual countries' shares in the total trade of the region in 1975, measured in US dollars. Volume indices for *trade with socialist countries* and *with market economies* were obtained by deflating national data (supplemented by secretariat estimates) on the value of trade in the two markets in five major commodity groups by means of Hungarian, Polish and UN price indices. This exercise was conducted in terms of transferable roubles for trade with socialist countries and in US dollars for trade with market economies; deflated commodity group data were aggregated for each country and for eastern Europe in terms of their value in 1975 transferable roubles or US dollars respectively.

Soviet Union: Volume indices of *total trade*, *trade with socialist countries* and *trade with market economies* for 1981 from USSR Ministry of Foreign Trade, *Vneshnyaya torgovlya SSSR 1922-1981*, Moscow, 1982. Separate indices for developed and developing market economies have been aggregated in terms of the value of these flows at 1975 US dollars in order to obtain the index for all market economies. Volume indices for 1982-1984 are secretariat estimates obtained on the procedure outlined above.

[a] In terms of US dollars

[b] In terms of transferable roubles.

TABLE 3.6.8

Eastern Europe and the Soviet Union: changes in foreign trade value and trade balances by partner region, 1983-1985
(Growth rates in percentages; trade balances in billion US dollars)

	Growth rates						Trade balance, in billion US dollars		
	Exports			Imports					
Country and trade partner group [a]	*1983*	*1984*	*1985* [b]	*1983*	*1984*	*1985* [b]	*1983*	*1984*	*1985* [b]
Bulgaria									
World	6.1	6.0	3.5	6.5	3.5	6.7	−0.2	0.1	−0.3
Socialist countries	13.5	4.7	5.3	10.0	3.6	2.9	−0.5	−0.4	−0.2
Developed market economies	−2.5	−7.9	−2.9	−10.8	2.4	17.3	−0.4	−0.6	−0.9
Developing countries	−19.1	24.7	−2.0	8.6	5.3	31.1	0.8	1.2	0.9
Czechoslovakia									
World	5.5	4.3	1.6	5.9	4.6	2.5	0.1	0.1	−0.1
Socialist countries	6.6	6.2	2.9	9.4	6.5	2.7	−0.6	−0.7	−0.7
Developed market economies	−2.6	2.9	−1.5*	−6.5	−5.4	4.0*	–	0.2	0.1*
Developing countries	12.9	−9.6	−4.6*	−1.3	9.8	−6.2*	0.8	0.6	0.6*
German Democratic Republic									
World	9.4	4.4	0.7	6.6	6.6	1.1	2.3	1.9	1.8
Socialist countries	10.0	5.7	−1.0*	3.4	6.8	3.6*	0.9	0.8	0.1*
Developed market economies	12.8	5.1	4.6*	12.9	7.0	−6.7*	0.9	0.8	1.6*
Developing countries	−8.7	−12.9	−2.0*	16.5	1.0	8.6*	0.4	0.2	0.1*
Hungary									
World	−1.0	−1.7	−1.7	−3.5	−5.0	0.7	0.2	0.5	0.3
Socialist countries	−5.8	−2.6	7.0	−4.8	−4.0	3.2	0.3	0.3	0.5
Developed market economies	8.8	−14.7	−13.7	−8.6	−4.1	11.4	−0.1	0.2	−0.6
Developing countries	−2.3	−2.8	−6.0	20.0	−11.1	−40.4	–	–	0.4
Poland									
World	3.2	1.6	−2.3	3.4	0.5	1.4	1.0	1.1	0.7
Socialist countries	5.5	−1.4	0.9	4.8	−1.3	−2.0	−0.5	−0.5	−0.3
Developed market economies	2.5	8.2	−2.2	−3.7	2.9	10.6	0.7	0.9	0.5
Developing countries	−3.8	−2.5	−16.5	26.6	6.7	−5.8	0.7	0.6	0.5
Romania									
World	0.4	5.5	4.6	−8.2	−1.1	14.6	2.5	3.2	2.6
Socialist countries	1.4	−5.2	20.6*	5.5	−10.5	20.3*	0.2	0.4	0.5*
Developed market economies	7.8	13.5	−13.0*	−30.3	14.0	−1.3*	2.2	2.5	2.0*
Developing countries	−9.3	11.1	8.0*	−10.9	5.2	16.1*	0.1	0.3	0.1*
Eastern Europe									
World	5.0	3.7	1.1	3.1	2.8	3.5	6.0	6.9	5.1
Socialist countries	6.9	3.2	3.5	5.6	2.9	3.6	−0.2	−0.1	−0.1
of this: Eastern Europe	5.7	0.3	3.0	5.3	1.5	6.7	0.3	0.1	−0.6
Soviet Union	9.1	4.0	3.8	6.0	3.5	1.5	−0.7	−0.6	0.2
Developed market economies	6.4	5.9	−3.5	−3.5	2.7	3.2	3.2	4.0	2.6
Developing countries	−6.7	1.5	−1.6	3.5	2.5	3.8	3.0	2.9	2.5
Soviet Union									
World	5.1	−0.2	−5.1	3.3	−0.1	3.0	11.2	11.1	4.0
Socialist countries	8.0	1.7	2.4	6.9	3.3	7.6	5.4	4.8	2.5
Developed market economies	1.9	−1.1	−15.2	−3.1	−4.8	−4.1	1.3	2.2	−0.8
Developing countries	1.1	−5.4	−14.4	4.6	−4.4	−1.4	4.5	4.2	2.4

Source: Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Figures for 1985 are in some cases ECE secretariat estimates based on national trade data for the first 9-11 months, supplemented by trade partner statistics and trend analysis; these may be subject to substantial error margins and should therefore be considered first approximations only.

Note: Growth rates and trade balances are based on trade values in terms of US dollars; growth rates may therefore differ from those shown in national statistics. National trade data are converted to dollars at the conversion coefficients used for statistical purposes. In most—but not all—cases these are time-weighted averages of the official "basic" exchange rate against the dollar, as announced by national banks or other authorities.

[a] The partner country grouping follows the practice of the national statistical sources, which differs from the breakdown usually employed in United Nations publications. Thus, "socialist countries" includes Yugoslavia and Cuba, in addition to the east European countries, the Soviet Union and the Asian centrally planned economies. "Eastern Europe" refers to the six east European country members of the CMEA shown separately in the table.

[b] Preliminary.

3.7 CHANGES IN THE EXTERNAL AND DOMESTIC USE OF OUTPUT GROWTH IN 1970-1984

In this note, an attempt is made to assess quantitatively the absorption of output growth by the main demand components in eastern Europe and the Soviet Union in 1970-1984. External demand took up a relatively small part of the growth of net material product (NMP) produced in the Soviet Union, but absorbed a growing share of increases in domestic output in the east European countries. The volume and pace of domestic demand had to adjust to changes in domestic output and net export growth. Thus, in the first half of the 1970s, increases in NMP produced were wholly absorbed by domestic demand, but in 1981-1984 the share of domestic uses in total output growth declined sharply in the majority of countries. In Czechoslovakia, the German Democratic Republic, Hungary and Romania, the overwhelming share of domestic production increments was transferred abroad in 1981-1984 in order to generate foreign trade surpluses. Consumption growth was, however, a basic economic policy objective even under conditions of slower economic growth and a substantially worsening external environment. Most of the adjustment process was focused on accumulation. Subsection (i) discusses the relationship between demand changes as a whole and output growth. Subsection (ii) examines the absorption of output growth by domestic demand, and subsection (iii) analyses the share of changes in net trade in the growth of NMP.

(i) Demand changes and output growth

Changes in the pace of economic growth in the centrally planned economies are often explained by factors arising both from the supply and the demand side.[323] However, due to the primary role of supply factors (the centrally planned economies are thus seen as mainly supply-side managed economies), output growth is usually analysed in terms of production inputs and efficiency in their use. The influence of demand factors is considered secondary. Nevertheless, the pace and pattern of economic growth, especially in the short run, depend not only on the volume and efficiency of resource use but also on the evolution of external demand and of the main domestic demand components. While the former demand constitutes an exogenous and direct factor of economic growth, the importance of which in present conditions can hardly be denied, it is also relevant to interpret the role of total domestic demand, and within it of consumption and accumulation.

In centrally planned economies, the balance between supply and demand is achieved through the planning process. The primary role is attributed to possibilities for expanding domestic output or imports. Total demand growth thus depends on factors influencing the supply situation. At the macro-economic level, changes in domestic demand (consumption and accumulation) are planned in close correspondence with supplies, the plan playing the determining role in allocating resources to consumption or accumulation. In the market economies, on the other hand, the impulse for economic growth arises mainly from demand changes. This difference may explain why the interaction of demand and output growth is often neglected in macro-economic analyses in the centrally planned economies.

There are, however, important feedbacks between demand and domestic output growth in the centrally planned economies, and policies with regard to final demand can have important repercussions on output growth. Relationships between final demand and output changes are well known from input-output analysis. Greater attention to consumers' requirements (including the growing role of social consumption funds), restrictive policies influencing investment growth in recent years and also the growing importance of foreign trade in most of the centrally planned economies bear witness to the increasing role of demand in shaping the pace and structure of output growth. A number of measures adopted in recent years to enhance the role of wages, incentives, prices, credits and profits also point to the greater attention now given to demand management.

A comprehensive assessment of the external and domestic use of output growth in the centrally planned economies faces several methodological and data problems. Firstly, the measurement of the contribution of external demand to the change in NMP produced is hindered by the lack of statistical data on imports and exports in constant prices and in a classification consistent with the NMP concept. Secondly, neither the statistical coverage nor the pricing of final demand components is uniform for all countries in question. The findings given below should therefore be interpreted with caution. No attempt is made to investigate the mechanism of the supply-demand relationship as such, or to analyse the causes of demand changes. The term "contribution" used in this section is thus to be interpreted rather in terms of the "absorption" of increases in NMP produced by different demand components. The overall changes in domestic and external use of the growth in NMP produced during 1971-1984 are summarized in chart 3.7.1.

(ii) Domestic demand (consumption and accumulation)

The percentage point contribution of total domestic demand (net output used for domestic consumption and accumulation, hereafter also referred to as domestic utilization or NMP used) to the growth of NMP produced is first calculated by weighting the growth rates of NMP used according to its base year share in NMP produced. The results are then expressed as percentage shares of the growth rates of NMP produced. A similar procedure is followed in calculating the contribution of consumption and accumulation individually to the growth of NMP produced. Statistical data on demand changes are in constant prices (for different countries different base years are used)—except for the Soviet Union where, up to 1980, statistical data on demand changes in individual years were only available in current prices. The results are shown in table 3.7.1.

In the first half of the 1970s, increases in domestic production (NMP produced) were wholly absorbed by domestic utilization. In this period, movements in net trade played an insignificant role in absorbing changes in NMP produced, most of which was absorbed domestically. In Bulgaria, Czecho-

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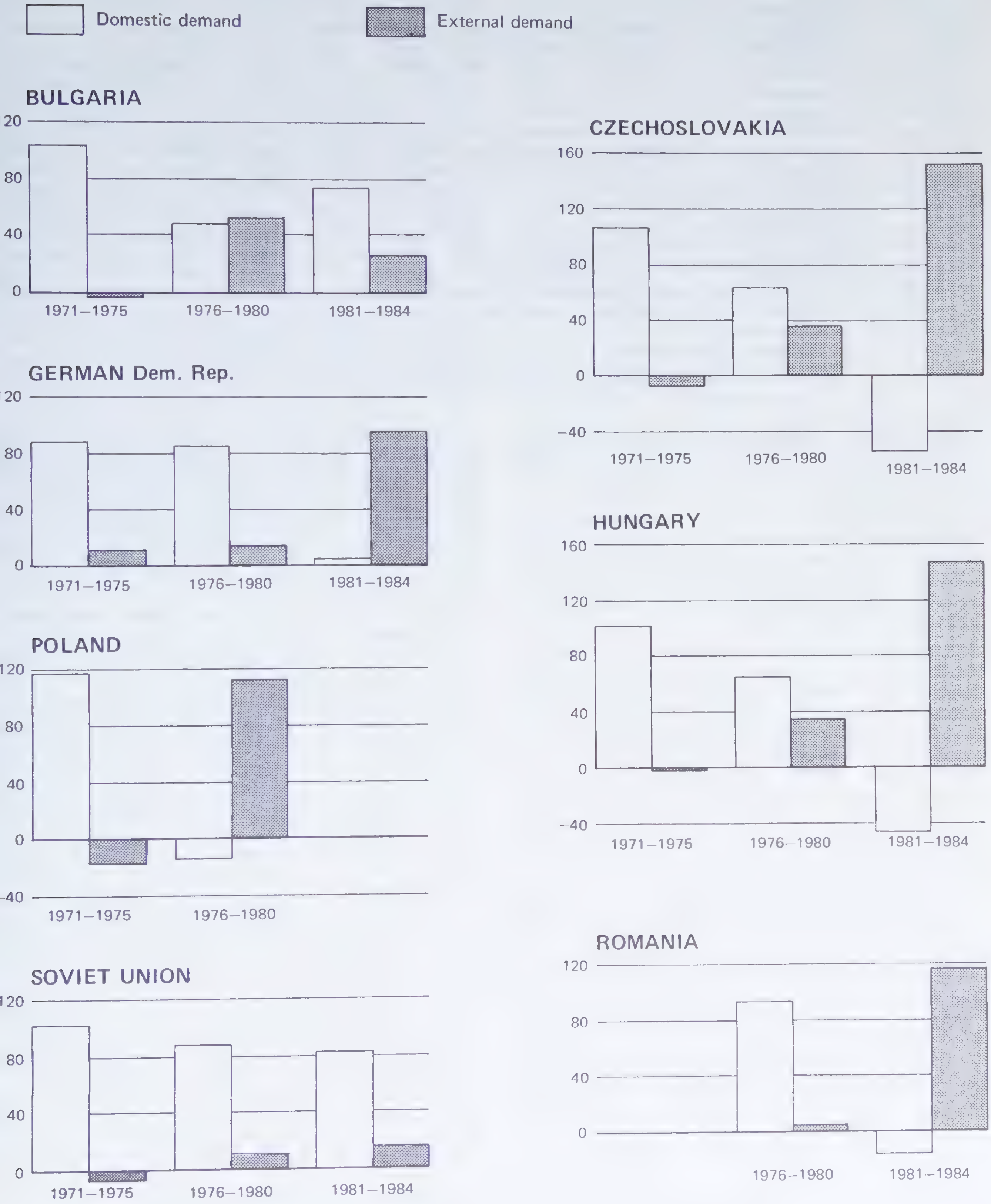
[323] See, for example, United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, p. 87.

CHART 3.7.1

Changes in the domestic and external use of output growth

(Percentage shares)



Source: ECE secretariat estimates based on national statistics.

TABLE 3.7.1

Domestic use of output growth

(Percentage shares of domestic demand changes in growth of NMP produced) [a]

	Bulgaria	*Czecho-slovakia*	*German Dem. Rep.* [b]	*Hungary*	*Poland*	*Romania*	*Soviet Union*
1971-1975							
Total domestic demand	101.9	108.7	88.4	100.6	119.3	..	[c] 105.6
Consumption	56.6	73.1	75.5	67.2	60.3	..	88.7
Accumulation	45.3	35.6	12.8	33.4	59.0	..	16.9
1976-1980							
Total domestic demand	44.5	63.0	87.9	64.2	−16.4	95.6	[c] 92.1
Consumption	40.0	52.5	73.4	86.6	240.9	63.5	80.0
Accumulation	4.5	10.5	14.5	−22.4	−257.3	32.1	12.1
1981-1984							
Total domestic demand	77.6	−53.7	4.1	−49.0	..	−19.9	86.9
Consumption	55.0	86.8	38.6	60.7	..	32.4	62.6
Accumulation	22.6	−140.5	−34.5	−109.7	..	−52.3	24.3

Source: ECE secretariat estimates based on national statistics and IMF statistics (for Romania).

[a] In volume terms.

[b] For the German Democratic Republic no data on domestic demand in absolute terms is available. The contribution of total domestic demand to the growth of NMP produced was obtained from unweighted growth rates of NMP used. Because the weights of NMP used in NMP produced are very high (they are close to 1 in other countries), the above simplification gives acceptable results.

[c] Based on current prices.

slovakia, Hungary, Poland and the Soviet Union, NMP used grew faster than NMP produced, which means that import growth surpassed that of exports. Thus external resources were drawn in to satisfy domestic demand, which resulted in trade deficits. Such developments are shown in the table by entries for total domestic demand exceeding 100 per cent. In the case of Poland, the domestic absorption of external resources was substantial. In the German Democratic Republic, the domestic use of output was close to 90 per cent of the growth of NMP produced.

Within NMP used, the major part of increases in 1971-1975 was absorbed by consumption in all countries of the region. This contrasts with Poland, where the contribution of accumulation—which grew at an average rate of 18 per cent annually—to the growth of NMP produced reached almost 60 per cent. In other countries, fast accumulation growth in the first half of the 1970s also exceeded consumption growth (the only exceptions were the German Democratic Republic and the Soviet Union). However, accumulation absorbed a smaller share of output growth than consumption because of its lower weight in NMP produced.

In the second half of the 1970s, the need to improve trade balances required NMP used to grow more slowly than NMP produced in most countries of the region. This is shown by the falling share of domestic demand in increases of NMP produced in Bulgaria, Czechoslovakia, Hungary, Poland and the Soviet Union. In the German Democratic Republic, changes in the share of domestic demand in output growth were insignificant between 1971-1975 and 1976-1980. In Romania, the process of generating growing trade surpluses began later than in the other countries and total domestic demand still accounted for 96 per cent of the rise in NMP produced growth in 1976-1980.

Within domestic demand, consumption growth continued to absorb a predominant share of domestic demand in the second half of the 1970s. This resulted from high rates of growth of both personal and social consumption relative to accumulation. The latter's share in the growth of NMP produced fell to less than 15 per cent in Bulgaria, Czechoslovakia, the German Democratic Republic and the Soviet Union. Poland recorded an absolute decline in NMP used as early as 1976-1980. Thus the share of NMP produced absorbed by total domestic demand is negative in the table. Hungary and Poland both recorded absolute declines in the level of accumulation during that period (in Poland by 12 per cent annually) and these shares were thus also negative.

The factors underlying the above changes were: export-oriented policies, accompanied by restrictions on investment and the maintance of consumption growth. Investment growth began to decelerate sharply at the end of the 1970s.

The process of adjustment to worsening economic conditions in 1981-1984 was reflected in slower economic growth in almost all the countries concerned. Growing and substantial trade surpluses were necessary, particularly in the east European countries, to compensate for deteriorating terms of trade and to reduce foreign debt. This brought about further marked declines in the share of domestic demand in national output increases in all countries but Bulgaria and the Soviet Union. In some countries, NMP used declined absolutely, and the share of NMP produced absorbed by total domestic demand thus became negative (Czechoslovakia, Hungary and Romania). Poland, where declining levels of NMP produced were accompanied by even bigger falls in NMP used, was an extreme and exceptional case.

In spite of slower growth or even contractions in NMP used, consumption also continued to grow in all the other countries reviewed but Poland. It thus absorbed a growing share of the rise in NMP produced (almost 90 per cent in Czechoslovakia, about 60 per cent in Bulgaria, Hungary and the Soviet Union and about one third in the German Democratic Republic and Romania). Consumption growth continued to be a central policy objective even during a period of general constraint. Accumulation levels, on the other hand, declined considerably in most of the countries concerned (by 10 per cent annually in Czechoslovakia, 7.5 per cent in the German Democratic Republic, 13.3 per cent in Hungary, 6.6 per cent in Poland and 7 per cent in Romania). In Bulgaria and the Soviet Union, in contrast, accumulation increased at average annual rates of 3.2 and 3.7 per cent respectively and absorbed about one quarter of the growth of NMP produced in 1981-1984.

The share of domestic demand changes as a whole in the growth of NMP produced nonetheless varied widely over time and by countries. These reflected above all significant fluctuations in the volume of net exports and accumulation.

In *Bulgaria*, changes in total domestic demand absorbed a significant part of NMP produced growth in all three subperiods shown. In the second half of the 1970s, when the share of domestic demand substantially declined, consumption growth continued to absorb 40 per cent of NMP increases. In *Czechoslovakia*, the share of domestic demand growth in changes in NMP produced declined continuously over the whole period examined. Nevertheless, consumption absorbed the predominant part of output increases in NMP produced throughout. In 1981-1984, the consumption share rose to a very high level, domestic output increases transferred abroad to increase trade surpluses having been offset by declines in the share of accumulation. In the *German Democratic Republic*, total domestic demand and consumption absorbed 88 and 75 per cent respectively of increases in NMP produced in both halves of the 1970s. In 1981-1984, these shares fell to 4 and 40 per cent respectively. These movements were, however, accompanied by high rates of growth of NMP produced—4.4 per cent annually.[324] Trends in *Hungary* were similar to those in Czechoslovakia with regard to the absorption of output growth by domestic demand as a whole, though there were some differences in the relative shares of consumption and accumulation. In fact, the share of consumption changes was higher for Hungary in 1976-1980, but lower in 1981-1984, than for Czechoslovakia. In *Poland*, the whole increment in NMP produced was absorbed by domestic utilization in the first half of the 1970s. In addition, external resources (net imports) accounted for a high share of resources for domestic use. Developments in 1976-1980 were strongly influenced by absolute declines in both NMP used and accumulation, resulting in a negative contribution by both components, especially accumulation, to the growth of NMP produced. Thus consumption, which continued to grow at relatively high rates of 4.5 per cent annually, absorbed substantially more resources than was provided by the rise in NMP alone. In 1981-1984, the process of adjustment to changed internal and external economic conditions resulted in further declines in NMP used and in accumulation. Consumption levels were also affected and decreased absolutely in this period. For *Romania*, figures are only available from 1975. In 1976-1980, NMP growth was absorbed almost entirely by domestic demand, with consumption prevailing. In 1981-1984, as in Czechoslovakia and Hungary, further growth of consumption was accompanied by declines in NMP used and accumulation. In the *Soviet Union*, total domestic demand growth appears to have absorbed the major part of the rise in NMP produced in the whole period 1971-1984. This stems from the smaller role of net exports in Soviet economic growth. The share of output growth absorbed by accumulation declined in 1976-1980, but recovered strongly in 1981-1984. Consumption, on the other hand, followed a different path, reflecting the exceptionally high rises in accumulation in 1982 and 1983 (11 and 5 per cent respectively).[325]

(iii) Foreign demand

The size of net foreign demand to NMP produced can only be measured indirectly, since the necessary trade data are not published. As already mentioned, it can be found as a residual between NMP produced and domestic demand (NMP used). However, this difference reflects not only net trade but also compensation for losses. The analysis is thus based on the assumption that the size of compensation for losses and its weights in total NMP are rather small, and that changes in this item do not significantly influence NMP growth.

The procedure can be used to approximate the contribution of changes in external demand to output growth, as follows. If NMP produced grows faster than NMP used, then a growing share of domestic output is exported and a smaller share of domestic demand is satisfied from imports. Put another way, a growing contribution of foreign trade to economic growth may stem either from a faster rise in exports relative to imports, or from a faster decline in imports relative to exports. Hence, periods when net export growth absorbs an important part of NMP growth may coincide either with periods of export expansion or of import reduction.

Developments in the contribution of foreign trade to output growth in the centrally planned economies can be summarized as follows:

— Foreign trade provided a relatively small but increasing contribution to the growth of NMP produced in the *Soviet Union* throughout the period reviewed (table 3.7.2). However, it played a significantly smaller role than in the east European countries, particularly in the last ten years.

In eastern Europe, the absorption of output growth by foreign demand was, on average, much higher than in the Soviet Union, though very unstable. In the first half of the 1970s, the growth of NMP used even exceeded NMP produced in four of the countries concerned. Thus, net trade (net imports) enabled resources for domestic utilization to increase by more than the growth of NMP produced in Bulgaria, Czechoslovakia, Hungary and Poland. In the German Democratic Republic, the contribution of external demand to output changes was positive, but relatively small. In the second half of the 1970s, net trade (net exports) grew fast, and absorbed a growing share of NMP produced in Bulgaria, Czechoslovakia, Hungary and Poland. In the German Democratic Republic and Romania, the difference between the change in NMP produced and NMP used remained relatively small. By 1981-1984, however, an exceptionally high absorption of output growth by net foreign demand can be seen in all east European countries except Bulgaria. In Czechoslovakia, Hungary and Romania, the percentage contribution was even higher than 100 per cent — i.e., the increase in NMP produced was more than wholly absorbed by net exports while the level of NMP used contracted. The increasing absorption of output growth by foreign trade in eastern Europe was linked with the need to generate foreign trade surpluses in order to offset deteriorating terms of trade and to reduce external indebtedness. This was achieved both by export expansion, which was substantial in 1982-1984, and by import reductions—mainly in 1981 and 1982. The very big

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[324] The domestic use of output growth may be slightly overstated since the method of calculation for the share of the domestic use in NMP produced is based on an unweighted rate of growth of total domestic demand.

[325] The data on domestic utilization (total domestic demand) for the Soviet Union up to 1980 are available only in current prices, which may affect the comparability of results for different periods.

TABLE 3.7.2

External use of output growth

(Percentage shares of net trade changes in growth of NMP produced)

	1971-1975	*1976-1980*	*1981-1984*
Bulgaria	−1.9	55.5	22.4
Czechoslovakia	−8.7	37.0	153.7
German Democratic Republic	11.6	12.1	95.9
Hungary	−0.6	35.8	149.0
Poland	−19.3	116.4	..
Romania	..	4.4	119.9
Soviet Union	−5.6	7.9	13.1

Source: ECE secretariat calculations based on national statistics.

Note: When NMP used decreases absolutely, the share of net trade (i.e., net exports) in the growth of NMP produced exceeds 100 per cent.

In the case of Poland, calculations for 1981-1984 are not included because of the fall in both NMP produced and NMP used. No data for Romania in 1971-1975 are available.

absorption of domestic output increases by higher net exports in 1981-1984 also reflected the fact that NMP produced grew relatively slowly in most countries.

Underlying this general picture there were, of course, important differences between individual east European countries.

In *Bulgaria*, NMP used grew faster than NMP produced in 1971-1975. Net foreign trade (net imports) thus provided resources for domestic utilization in excess of increments in NMP produced. This relationship was reversed in 1976-1980. Export growth exceeded that of imports, and on average net export growth absorbed more than half of the increases of NMP produced. In 1981-1984 the growth rates of NMP produced and NMP used again converged, and external demand thus absorbed a smaller share of the growth of domestic output in this period. The explanation may be found in Bulgaria's relatively low foreign debt.

In *Czechoslovakia*, net imports also enabled domestic utilization to grow faster than NMP produced in 1971-1975. However, this policy led to external imbalances which were reinforced by worsening terms of trade. The relationship between the growth of domestic output and domestic demand was reversed in 1976-1980, when exports expanded faster than imports. The foreign trade sector thus absorbed more than one third of national output increases in this period. The exceptionally high absorption of output growth by net exports in 1981-1984 also reflected the small rise in NMP produced in this period. Nevertheless, the wide differences between the rates of growth of NMP produced and NMP used (on average more than 2 percentage points in 1981-1984) resulted in important trade surpluses, which helped Czechoslovakia to reduce its foreign indebtedness substantially.

In the *German Democratic Republic*, the absorption of increases in NMP produced by net export growth was rather low in the 1970s (averaging about 12 per cent annually), though big variations can be observed in individual years. However, in 1981-1984, high net export changes accounted for almost 100 per cent of the rise in NMP produced. This indicates priority to expand exports and generate trade surpluses—as in other east European countries.

In *Hungary* a growing share of output growth was absorbed by net exports over the whole period examined. In 1981-1984, net exports accounted for more than 100 per cent of the increases in NMP produced (almost 150 per cent). Thus, NMP used fell by 1 per cent annually while NMP produced rose on average by 2 per cent. In fact, the impact of foreign trade changes led to absolute declines in the level of NMP used in almost all the years 1979-1984.

For *Poland*, the calculations are influenced by absolute declines in the volume of NMP produced in 1979-1982. The exceptionally fast increases in NMP used in 1971-1975 (annual average rates of 11.6 per cent) far surpassed domestic output growth but the consequent rise in net imports had to be financed by huge borrowing from abroad. The relationship between NMP produced and NMP used started to improve in the second half of the 1970s, but the process was interrupted by the social and economic crisis at the turn of the decade. The recovery started in 1982, and positive results were recorded in 1983 and 1984.

The analysis confirms the attachment of the east European countries to policies designed to reduce foreign indebtedness in 1981-1984. This strategy left little room for expanding domestically used NMP, especially given the moderate rates of economic growth in 1981-1984.

3.8 PRODUCTIVITY TRENDS IN EASTERN EUROPE AND THE SOVIET UNION, 1970-1983

Several years ago a short annex to the investment section of this publication attempted to quantify the contribution to total and industrial output growth of changes in the volume and productivity of fixed assets used in broad sectors of the economy and industrial branches in eastern Europe and the Soviet Union. In a subsequent study, the deceleration of labour productivity growth in the countries concerned was examined, and an effort was made to isolate some of its causes. The present study takes the two approaches further, first by up-dating the facts of productivity change, and thereafter by extending the growth decomposition technique used in the first of the above studies to employment as well as fixed assets changes (subsection (i)). In addition, some econometric approaches to the measurement of industrial total factor productivity in the seven countries are surveyed, and some interpretations based on new secretariat research are presented (subsection (ii)).

(i) Factor inputs, productivity and output growth

The present subsection first briefly recapitulates the main features of the deceleration of labour and capital productivity in three sub-periods of the years 1970-1983, by sector of the economy and industrial branches.[326] It finds that the decline in capital productivity, and a deceleration of labour productivity growth, which occurred throughout the area in the 1970s, continued into the early 1980s.

Secondly, changes in the volume and productivity of fixed assets and employment are compared with changes in output growth over the three successive sub-periods retained. The aim is to separate out, by a growth decomposition process, the relative contributions to output increments of changes in the amount, in the productivity and in the sector/branch distribution successively of each of the two factors examined. The main finding is that the impact of the capital productivity component of output growth has been negative and increasing. Hence output growth since 1970 has been associated with proportionally much larger amounts of fixed assets, most of which were offset by capital productivity declines. It is also evident that the relative share of the labour input component of output growth rose in most countries in 1980-1983 compared with 1971-1975, while that of the labour productivity element declined.

The technique used also makes it possible to determine the share of structural change (i.e., effects due to sector/branch redeployment of each of the two factors) in overall output growth. These shares were found to be generally rather small in the case of both fixed assets and employment.

An attempt is finally made to weight the two factors to derive total factor input series for the material sphere and for industry. The respective output aggregates are then subjected to the same decomposition process in respect of total inputs as was undertaken for each of the two factors separately. In recent years, the share of the total factor inputs—the "extensive" component of output growth—has increased relative to total factor productivity—the "intensive" component.

(a) Factor inputs 1970-1983

Fixed assets and employment growth rates for the economy as a whole decelerated in all countries of the region between the 1970s and the early 1980s. Indeed in Hungary and Poland, employment levels actually declined. Even so, the latest period shows the same basic characteristic as in the 1970s: very rapid growth of fixed assets relative to employment (fixed asset growth rates of 3-7 per cent annually, as compared with − 1/2 to 2 per cent for employment). These characteristics were even more marked for the material sphere as a whole. Its share of employment fell in all countries. In contrast, the material sphere's share of fixed assets rose rapidly.

A feature of the period has been the slowdown in the decline of the agricultural labour force. In fact, agricultural employment actually rose in the German Democratic Republic since 1980, in Hungary since 1978 and in Poland since 1975, though it fell slightly in some individual years in the latter two countries.

The facts point up a similar element of resource allocation strategy in all countries of the region. First, the decelerating labour supply has been compensated by continued increases in fixed assets per worker. Second, this process has been pushed hardest in the material sphere, where the resulting annual rates of growth of capital intensity (fixed assets per worker) over the period were around twice as high as in the non-material sphere. In most countries and most sub-periods, the rise in capital intensity was highest in agriculture (which helped to compensate out-migration), followed by industry.

(b) Factor productivity 1970-1983

The fall in capital productivity and the deceleration of labour productivity in eastern Europe and in the Soviet Union has been continuously documented in recent issues of the *Survey*.[327] Official statistics show that a combination of heavy investment throughout the 1970s (despite some planned and achieved deceleration in its growth in the second half of the decade), a fall in the rate of fixed asset retirements after 1970 and particularly after 1975 in almost all countries in question, compounded by decelerating output growth, were associated with declines in the *capital productivity* of the material sphere (net material product basis) ranging between 1-3 per cent annually over the period 1970-1980 (table 3.8.1). The decline was biggest in Poland and the Soviet Union (3 per cent annually), and somewhat more than half this in Bulgaria, Czechoslovakia, Hungary and Romania. It was smallest—about 1 per cent annually—in the German Democratic Republic. Up to 1983, the movement even intensified in most countries, but not in Hungary (where it was already low) and the Soviet Union. Capital productivity declined in the latter period by 3-6 1/2 per cent annually except in the German Democratic Republic and Hungary, where the fall was about 1 1/2 per cent annually. The decline in capital productiv-

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[326] For previous work on productivity and related questions, see United Nations Economic Commission for Europe, *Economic Survey of Europe in 1981*, New York, 1982, pp. 254-258 and *Economic Survey of Europe in 1982*, New York, 1983, pp. 199-222.

[327] See, for example, United Nations Economic Commission for Europe, *Economic Survey of Europe in 1983*, New York, 1984, pp. 109-111.

Table 3.8.1

Output per unit of fixed assets, 1971-1983

(Average annual percentage change)

	Bulgaria			Czechoslovakia			German Democratic Republic			Hungary		
	1975/ 1970	1980/ 1975	1983/ 1980	1975/ 1970	1980/ 1975	1983/ 1980	1975/ 1970	1980/ 1975	1983/ 1980	1975/ 1970	1980/ 1975	1983/ 1980
Net material product												
Industry	−0.2	−1.1	−0.7	−0.5	−2.5	−5.2	−0.6	−0.5	−1.2	−0.3	−3.2	−1.4
Construction	−6.9	−4.3	−2.9	−1.4	−5.7	−4.0	−2.2	−5.0	−0.9	−6.1	−5.8	−1.7
Agriculture and forestry	−4.6	−10.0	−7.3	−4.2	−5.3	−6.8	−2.6	−4.8	−3.0	−5.3	−5.0	−2.9
Transport, communications	2.6	−4.3	−1.1	2.5	−0.5	−2.6	1.7	−2.0	−0.5	2.3	−0.4	−1.7
Trade	3.2	11.7	−13.8	−2.9	0.4	−0.5	0.3	−2.9	−2.1	−2.0	−7.5	−7.6
Other	−26.9	−1.3	−0.2	−3.1	−15.9	−15.9	−4.1	−4.5	−0.4	−3.0	0.5	−5.3
Total material sphere	−2.1	−2.7	−3.6	−0.1	−2.5	−4.3	−0.5	−1.3	−1.4	−0.1	−2.7	−2.2
Gross industrial production							[a]					
Energy	−3.7	−0.4	−4.8	0.3	−3.1	−5.1	−3.2	..	..	−0.9	−0.4	−3.7
Fuel	4.7	−1.5	−20.1	−1.0	−3.9	−6.0				−3.1	−5.2	−7.3
Metallurgy	3.0	4.2	−4.3	2.1	−1.6	−4.4	1.0	..	..	−0.9	−4.2	−7.3
Engineering	0.7	2.4	−2.3	2.3	0.2	−2.0	−1.0	..	..	0.1	−4.7	0.8
Chemicals	−0.5	2.1	0.6	2.0	0.7	−2.6	—	..	..	−1.0	−2.4	−1.7
Construction materials	−1.3	−3.7	−0.8	−1.5	−2.6	−3.6	0.8	..	..	−5.2	−2.2	−1.2
Wood, paper	−3.4	−2.8	−5.7	−2.0	−1.9	−6.0	−0.8	..	..	−6.2	−5.3	−2.5
Textiles	−1.2	−1.6	0.2	−1.0	−1.5	−2.1	−0.3	..	..	−3.9	−4.4	−3.0
Other light	−3.1	−4.1	−3.1	−0.8	−2.1	−2.2	−0.9	..	..	0.7	−3.8	1.6
Food	−2.0	−4.5	−0.7	−0.8	−3.0	−3.3	−0.4	..	..	−2.4	−5.6	−2.7
Other	8.9	−10.0	−3.1	4.2	−0.7	−4.8	−0.5	..	..	−4.3	−2.2	0.6
Total industry	0.1	−1.6	−3.2	1.0	−1.4	−3.4	−0.1	..	..	−1.8	−3.8	−2.8

	Poland			Romania			Soviet Union		
	1975/ 1970	1980/ 1975	1983/ 1980	1975/ 1970	1980/ 1975	1983/ 1980	1975/ 1970	1980/ 1975	1983/ 1980
Net material product									
Industry	0.8	−5.5	−7.5	0.1	−1.7	−5.0	−0.7	−2.4	−3.4
Construction	−0.5	−15.1	−10.6	−6.5	−6.8	−4.8	−3.4	−5.7	−5.2
Agriculture and forestry	−3.6	−8.9	1.6	−3.8	−5.1	−8.4	−13.2	−6.9	−3.4
Transport, communications	5.3	−2.4	−4.8	1.5	−4.8	−6.0	−0.6	−2.8	−2.7
Trade	7.0	−2.3	−8.3	0.3	−5.8	−9.9	−3.1	−0.6	−0.8
Other	2.4	−1.2	−9.9						
Total material sphere	1.5	−6.6	−6.6	−1.4	−3.3	−5.7	−2.7	−2.9	−2.7
Gross industrial production									
Energy	0.1	1.6	−3.8	..	..	..	−0.1	−0.9	−2.5
Fuel	0.9	−5.7	−3.1	..	..	..	−1.4	−4.8	−6.6
Metallurgy	−0.2	−7.4	−6.1	..	..	..	−2.2	−4.0	−3.6
Engineering	−0.1	−3.1	−5.4	..	..	..	1.4	−1.2	−1.8
Chemicals	2.3	−2.6	−3.4	..	..	..	0.9	−3.2	−2.2
Construction materials	−0.3	−4.6	−5.7	..	..	..	−1.6	−4.2	−2.2
Wood, paper	—	−3.2	−5.1	..	..	..	−2.0	−3.9	−2.1
Textiles	−3.8	−2.7	−9.2	..	..	..	−2.4	−3.6	−4.7
Other light	−0.5	−1.6	−2.3	..	..	..	−3.9	−1.3	−3.7
Food	−1.7	−4.7	−5.8	..	..	..	−1.9	−3.9	−1.6
Other	1.2	6.4	−24.9	..	..	..	0.3	−2.6	−3.2
Total industry	−0.1	−4.1	−5.4	..	..	..	−1.0	−3.0	−2.9

Source: National statistical publications and ECE secretariat estimates.

Note: Though sector and branch entries have been standardized across countries to the extent possible, the following main differences in coverage should be noted: metallurgy excludes non-ferrous metallurgy in Bulgaria and the Soviet Union. Fuel includes oil refining in the German Democratic Republic and Hungary. Other light industry includes clothing, leather, furs and footwear in the Soviet Union. In the other countries, it also includes printing (except in Bulgaria), glass and ceramics (except in Hungary).

[a] Branch entries for the German Democratic Republic refer, in order, to: energy plus fuel; metallurgy; mechanical engineering; electrical engineering; chemicals; construction materials; textiles; other light (clothing, leather etc., glass, wood and paper); food; other.

ity in the 1970s was, according to the work referred to earlier, particularly big in agriculture, but it also fell in virtually all other sectors in all countries. On a net output basis, the decline in industrial capital productivity was somewhat lower than for the economy as a whole except in Czechoslovakia and Hungary, and also in Poland in more recent years. These trends continued by and large into the 1980s.

In industry (on a gross output basis), the fall of capital productivity averaged about 2-2 1/2 per cent annually in Hungary, Poland and the Soviet Union in 1970-1980, and 1 1/2 per cent annually in Bulgaria and Czechoslovakia. The German Democratic Republic and Romania publish no data on fixed assets by industrial branch, but in the other countries a larger-than-average fall in capital productivity took place in the consumer-related industries (textiles, other light industry and food), and sometimes also in the energy field, particularly in its fuel branches. The rate of decline generally accelerated into the 1980s.

Most of the countries examined registered steadily decelerating rates of *labour productivity* growth in the material sphere of the economy between 1970 and 1983—the only exception being the German Democratic Republic after 1975 (table 3.8.2). In Poland, the absolute level of labour productivity actually fell between 1980 and 1983. A similar pattern emerged for industry—though there was some acceleration in the Soviet Union after 1980. In general, overall labour productivity growth rates in the material sphere and in industry decelerated by up to a half between 1971-1975 and 1981-1983, and by considerably more in Romania; the absolute level of labour productivity in the material sphere fell by 3 per cent annually during 1981-1983 in Poland. The deceleration was widespread for all main sectors of the material sphere and also for most individual industrial branches—though it was rather more marked for most countries in the fuel and/or energy branches, and chemicals.

(c) Decomposition of output growth relative to fixed assets and employment

The following paragraphs first describe a method of calculating the relationship between output growth and changes in each of the two main factors of production: fixed assets and employment. The main objective is to identify progress in the "intensification" of economic development over 1970-1983. The technique also includes a procedure for separating out two elements arising from structural changes in the deployment of factors of production.

The decomposition of output growth was carried out in terms of each of the two factors separately. Variations in the share of output growth associated with changes in the volume of factor inputs, in their productivity changes and in their sector/branch redeployment are first calculated and assessed. An interpretation of the results is then offered in the light of a simultaneous decomposition of growth in terms of both production factors simultaneously, and appropriately weighted.

It should be noted that the procedure does not prove any causal relation between changes in factor inputs and their productivity, and changes in output growth. Changes in the growth rates of production inputs, or of factor productivity, may both affect output; but exogeneously caused variation in the growth of output may also affect productivity.[328] Thus, though the approach clearly illustrates the shares and changes in the shares of factor input and productivity relative to output growth, it neither gives reasons for them nor shows the direction of causality.

It should also be noted that the "productivity" concept used is a broad one. For instance, changes in capacity utilization rates are not taken into account directly. Second, no distinction is made between productivity improvements due to technical progress and those due to changes in the efficiency with which the economy is managed. This is reserved for the econometric approach in subsection (ii) below. However, the decomposition technique can yield information on the progress actually made in implementing the transition towards a more intensive (resource-efficient) pattern of economic development.

The technique of growth decomposition retained here is to separate out first the contribution of changes in the volume of each of the two individual factor inputs observed over time. To do this, output growth up to year t is recalculated as the product of the factor level in the base year and its actual productivity level in year t. The difference between actual and recalculated output gives the contribution of changes in the factor input. Similarly, the effect of factor productivity change is shown by holding factor productivity constant at the base year level and multiplying it by the actual level of factor inputs in year t. The difference between this and actual output shows the growth contribution of factor productivity change.

A further refinement is to recalculate output in year t to find out the size of changes in the sector/branch deployment of factor inputs since the base year. One innovation in this respect is incorporated in the present work. In previous editions of this publication, only one "structural" effect was calculated: the effect of the redeployment of a factor input between sectors/branches with different *levels of productivity*. As formerly, this is done by recalculating output in year t by holding aggregate factor inputs to their actual change, but holding the share of each sector/branch in the total factor input constant as in the base year. The difference between actual and recalculated output thus gives the "structural component" due to the redeployment of the factor between sectors/branches with different productivity levels. This is then deducted from the contribution of changes in the factor input, leaving a "basic" factor input component purged of this type of structural change.

By the same reasoning, it is apparent that there is a second "structural component", namely, that due to the redeployment over time of the factor input between sectors/branches with *different rates of growth of factor productivity*. This is derived by assuming that factor productivity in all sectors/branches grew at the same rate as actually observed for the economy as a whole, with aggregate factor input and its sector/branch deployment held constant. The difference between the result and actual output in year t thus shows this second type of "structural component". This is then deducted from the effects of factor productivity changes, leaving a "basic" productivity component.[329]

A final point is that the four components (i.e., the "basic" factor input, "basic" productivity and the two "structural" effects described) do not amount to total observed growth. This is due to the existence of an interaction effect between the factor input and productivity components which cannot be distributed between them. This has already been described in previous editions of the present publication as "arising because, in an ag-

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[328] The relationship between output and productivity growth was examined in United Nations Economic Commission for Europe, *Economic Survey for Europe in 1982*, New York, 1983, pp. 212-214.

[329] The full set of expressions for deriving these effects are available from the secretariat of the Economic Commission for Europe on request.

TABLE 3.8.2

Output per worker in 1971-1983

(Average annual percentage change)

	Bulgaria			*Czechoslovakia*			*German Democratic Republic*			*Hungary*		
	1975/ 1970	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*
Net material product												
Industry	6.4	5.4	5.3	5.5	2.9	−0.5	5.5	4.3	4.3	7.7	5.8	6.0
Construction	6.8	3.7	4.8	5.3	0.8	1.2	5.8	1.8	4.2	4.7	5.8	3.5
Agriculture and forestry	5.9	−2.5	−0.1	4.2	2.2	−0.8	4.3	0.3	0.8	5.4	0.7	−0.3
Transport, communications	9.4	3.5	5.5	6.4	4.6	0.6	3.9	2.3	2.8	3.9	2.4	0.8
Trade	9.1	21.4	−8.6	2.3	5.3	3.5	6.0	3.2	2.4	6.0	0.7	−1.9
Other	−3.0	8.1	−5.9	7.7	−4.9	−8.7	0.5	3.6	2.6	0.2	4.8	−0.4
Total material sphere	6.7	5.3	3.0	5.3	3.2	0.5	5.3	3.6	3.7	6.4	3.6	2.5
Gross industrial production							[a]	[a]	[a]			
Energy	2.5	2.4	−0.5	3.9	2.1	−0.2	0.4	3.2	1.7	5.8	8.1	2.1
Fuel	10.7	4.2	−9.5	3.3	1.7	−2.1	5.7	3.3	2.4	4.8	2.4	−0.5
Metallurgy	9.6	4.0	1.6	4.8	2.1	0.3	4.1	4.9	3.7	4.5	2.6	3.0
Engineering	8.7	7.0	6.7	7.7	5.5	3.4	5.6	8.5	7.3	7.2	4.5	7.0
Chemicals	6.5	7.2	2.5	8.2	5.1	1.4	7.5	4.4	3.7	8.8	7.7	3.2
Construction materials	5.3	6.3	1.8	6.2	4.0	0.7	6.5	1.9	0.3	4.7	5.7	5.1
Wood, paper	6.9	4.8	2.3	6.2	4.4	2.5	..	..	..	5.9	4.6	5.6
Textiles	4.6	5.4	3.5	6.0	3.8	2.2	5.6	5.1	3.8	3.6	4.1	1.5
Other light	5.2	3.5	0.3	5.6	4.3	1.5	3.5	4.8	2.8	10.3	4.8	9.3
Food	6.0	3.2	4.1	4.4	2.8	0.9	3.2	0.4	1.2	2.9	3.4	3.3
Other	10.4	3.8	4.3	7.6	3.4	−0.5	2.9	1.2	1.0	3.7	9.2	13.1
Total industry	6.7	4.8	3.3	6.0	3.9	1.6	4.6	4.4	3.5	6.1	5.0	4.9

	Poland			*Romania*			*Soviet Union*		
	1975/ 1970	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*
Net material product									
Industry	7.6	2.4	−3.2	6.4	4.9	2.5	6.2	3.3	2.4
Construction	7.0	−4.3	−6.1	6.0	5.4	5.0	2.7	1.9	3.0
Agriculture and forestry	2.1	−3.3	4.8	10.4	6.7	0.8	−4.6	0.5	2.9
Transport, communications	9.6	2.9	−2.7	6.9	−1.6	0.9	4.2	1.6	2.2
Trade	6.8	2.1	−6.2	4.6	4.4	3.0	8.3	4.3	5.7
Other	7.4	5.4	−5.7						
Total material sphere	7.2	0.3	−3.0	10.1	6.4	2.7	4.2	3.2	3.2
Gross industrial production									
Energy	5.5	4.5	−3.0	8.2	3.5	−1.6	5.4	2.5	0.5
Fuel	5.6	0.6	−3.2	4.3	−0.3	−2.7	7.4	1.4	−0.2
Metallurgy	8.4	3.1	−0.9	6.7	3.2	−0.3	4.9	1.2	0.8
Engineering	9.2	5.8	1.4	6.6	6.8	1.3	8.5	5.8	4.7
Chemicals	8.7	4.8	1.4	7.9	6.2	−0.4	8.1	3.8	3.9
Construction materials	7.4	3.6	−1.3	7.8	11.1	3.4	5.7	0.6	2.0
Wood, paper	6.4	5.6	2.2	5.3	6.3	1.2	6.0	1.1	3.6
Textiles	6.0	4.7	−0.9	4.4	6.5	1.1	4.4	2.0	1.3
Other light	6.0	5.3	3.1	6.1	5.6	3.2	4.0	3.6	1.5
Food	5.2	2.7	−3.8	3.2	4.8	1.0	4.6	0.5	3.3
Other	6.3	6.6	−12.8	12.2	6.3	−0.7	6.1	3.9	1.2
Total industry	6.6	3.9	−0.5	5.0	5.2	0.7	5.7	2.7	2.8

Source: National statistical publications and ECE secretariat estimates.

Note: Though sector and branch entries have been standardized across countries to the extent possible, the following main differences in coverage should be noted: metallurgy excludes non-ferrous metallurgy in Bulgaria and the Soviet Union; fuel includes oil refining in the German Democratic Republic and Hungary; other light industry includes clothing, leather, furs and footwear in the Soviet Union; in the other countries, it also includes printing (except in Bulgaria), glass and ceramics (except in Hungary).

[a] Branch entries for the German Democratic Republic refer, in order, to: energy plus fuel; metallurgy; mechanical engineering; electrical engineering; chemicals; construction materials; textiles; other light (clothing, leather etc., glass, wood and paper); food; other.

gregated decomposition, the total change (in output) cannot be allocated exactly among its components''.[330] Hence, it cannot be said to arise simply from productivity changes or from changes in the volume of the factor input.

The above operations were carried out in turn for fixed assets and employment separately. It should be noted that all references to fixed asset and labour inputs and their respective productivity in the discussion of the decomposition of output growth relative to fixed assets and employment *separately* apply to the "basic" input and productivity components of growth defined above (i.e., net of the respective "structural" elements and of the "interaction" effects).

A preliminary comment on the results presented in table 3.8.3, and in particular the very high magnitude of the different components in some years and in some countries, should first be made. It is recalled that the tables show the various effects described above as percentages of total output growth over the periods reviewed. Thus, when output growth increments are very small, the size of the various effects can rise to quite high levels if fixed assets and employment respond slowly to changes in the pace of output growth (i.e., entries for material sphere fixed assets in Poland 1980-1983). In fact, although employment levels in both industry and the material sphere fell in Hungary since 1975 and in Poland more recently, changes in factor input, and especially fixed assets, have not generally reflected the deceleration of output growth in the seven countries. This is why the fixed asset growth component in particular is regularly equivalent to more than 100 per cent of output growth.

In interpreting the data in the table, it should also be noted that where output growth is negative the signs of all the components are reversed—that is, a negative component under these circumstances represents an offset to the decline in output growth, and a positive component a reinforcement or element of it. In fact, this only applies to Poland between 1980 and 1983.

Turning first to the *decomposition of growth relative to fixed assets only*, the capital productivity share has been large and rising but negative in most countries since the early 1970s (table 3.8.3). In the material sphere, this negative share was lowest in the German Democratic Republic, Hungary and the Soviet Union. Most countries have nevertheless shown similar patterns since the mid-1970s. In short, on the assumption of unchanged productivity levels, the contribution of the rise in fixed assets (second line of each country entry in the left-hand panel of the table) would have been far in excess of output growth actually achieved. However, declining capital productivity in almost all countries and sub-periods considerably more than offset changes in fixed assets levels. Thus, as output growth slowed down further between 1980 and 1983, not only the negative productivity component (arising because of declining capital productivity) but also the fixed asset input components rose in all countries but Hungary compared with the 1970s. This is so in both the material sphere and in industry. The negative capital productivity component rose to levels equivalent to a minimum of 35 per cent of total output growth in the material sphere, and 70 per cent in industry, between 1980 and 1983, and in some countries it exceeded output growth itself. It was highest in Czechoslovakia (where output growth declined to very low rates) and in Poland (where output growth was negative).

These results can be compared with the *decomposition of growth with respect to employment*. Here, movements have been less marked, since labour productivity has continued to grow (rare exceptions, such as Poland in 1981-1983, apart), though at decelerating rates. There is a great deal of variation between sub-periods and between countries, but a prominent feature is the falling share of labour productivity changes relative to material sphere growth in most countries of eastern Europe during 1970-1980. The Soviet Union, in contrast, made progress in improving this indicator of "intensification". In most countries, the share of the labour productivity component of industrial output rose between the first and second halves of the 1970s. In all east European countries but the German Democratic Republic (material sphere only) and Hungary, the share of labour productivity in total growth declined between 1976-1980 and 1981-1983—often very sharply. In the Soviet Union, in contrast, it continued to rise in both the material sphere and in industry between the same periods.

The *change in the sectoral and branch redeployment of employment and fixed assets* also presents some interest in the light of economic readjustment efforts in the 1980s.

The net sector/branch component of *fixed asset redeployment* was on the whole small but positive in material sphere output growth in most countries. Exceptions are Bulgaria in 1971-1975 and Hungary in 1976-1980, where this component was very large and positive, and Poland in 1976-1980 where it was large and negative (line 3 of each country entry in the left-hand panel of table 3.8.4).[331] It was also atypically high in Romania in 1981-1983. Generally, the structural shift component was equal to around 5 per cent of output growth—and declined over time. In industry, results for the five countries for which data are available were also on the whole positive in 1971-1980 (though much smaller than in the material sphere), the exception being the Soviet Union where they were small but negative throughout. In the early 1980s, this component remained small and negative in the Soviet Union, and the previous "gains" from structural shifts either became negative or were reduced markedly—as in Bulgaria and especially in Hungary.

For *employment*, the net effects of structural change in both the material sphere and in industry have been less clear cut. However, they tended to be much smaller, typically between 0-4 per cent of output growth, though they were higher in some countries in some years. Their sign varied—it was in fact negative in one third of the cases covered—and no consistent pattern of positive or negative contributions to output growth in the sub-periods covered can be discerned.

The above developments suggest the conclusion that in the 1970s and, though to a smaller extent, in the early 1980s, the material sphere output of most countries of the region continued to draw only modest benefits from structural change due to shifts between sectors with different productivity levels (Component 1). However, Bulgaria, Hungary, Poland in 1976-1980, and Romania in 1981-1983, made marked gains. Few

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[330] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, p. 39. Something can be said about the behaviour of the interaction effect even though it is not possible to attribute it precisely. It has several properties. First: given its derivation as the product of the increase of two components (input and productivity), it can be inferred that if either of the two components declines, the interaction effect will be negative. Second: for a given product of two components, the interaction effect will be maximized when the increments of each component are equal; when the growth of either component is zero, the interaction effect will be zero. Third, and conversely: the higher the amount by which the two components are scaled up, then, by the property of squares, the greater will be the resulting interaction effect relative to output growth, i.e., in the present instance, it will rise as a *share* of output growth.

[331] In Hungary, this reflects a considerable decline in the share of the very high capital-intensive transport and communications sector together, apparently, with some data classification inconsistencies between fixed asset and output series.

TABLE 3.8.3

Decomposition of output growth relative to fixed assets and employment
(Total output growth = 100)

	Fixed assets						*Employment*					
	Material sphere			*Industry*			*Material sphere*			*Industry*		
	1975/ 1970	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*
Bulgaria												
Input	138	162	214	99	135	183	1	—	18	22	16	24
Productivity	–25	–42	–90	90	–1	–67	99	100	81	70	80	72
Other [a]	–13	–20	–24	–24	—	–16	—	—	1	8	4	4
Czechoslovakia												
Input	102	182	672	83	138	288	5	10	32	8	13	21
Productivity	–1	–61	–489	13	–28	–160	94	88	68	90	84	78
Other [a]	–1	–21	–83	4	–10	–28	1	2	—	2	3	1
German Democratic Republic												
Input	110	136	138	..	..	..	2	12	7	24	10	15
Productivity	–8	–28	–35	..	..	..	98	86	93	70	87	83
Other [a]	–2	–8	–5	..	..	..	—	2	—	6	3	2
Hungary												
Input	102	211	233	136	249	189	–2	–25	–38	2	–41	–124
Productivity	–1	–84	–118	–24	–129	–81	102	130	141	97	152	243
Other [a]	–1	–27	–15	–12	–20	–8	—	–5	–3	1	–11	–19
Poland			[b]			[b]			[b]			[b]
Input	81	1 320	–68	101	231	–112	18	59	24	27	4	82
Productivity	13	–837	155	–1	–87	195	75	40	78	63	96	19
Other [a]	6	–383	–13	—	–44	17	7	1	–2	10	—	1
Romania												
Input	118	166	332	..	..	..	2	3	8	49	35	74
Productivity	–10	–41	–179	..	..	..	97	96	91	38	55	25
Other [a]	–8	–25	–53	..	..	..	1	1	1	13	10	1
Soviet Union												
Input	196	205	223	117	185	188	29	26	19	19	35	22
Productivity	–63	–73	–101	–11	–59	–73	66	70	80	76	60	76
Other [a]	–33	–32	–22	–6	–26	–17	5	4	1	5	5	2

Source: ECE secretariat estimates based on national statistics.

[a] "Other item" represents combined effects of two structural components (see table 3.8.4) and the "interaction" effect.

[b] Since output growth was negative in 1983/1980 the signs should be reversed when interpreting these entries.

common elements can be identified. The movements depend on factor productivity differentials, as well as the size of the shift between sectors and branches, and both varied from country to country. Some devoted an increasing share of inputs to relatively low-productivity (high factor-intensive) sectors—trade and construction in some cases, but in most the dominating feature was the shift to industry. These elements of material sphere output growth should also be viewed in the light of the smaller but usually negative share of output growth associated with structural shifts in both fixed assets and employment towards material sphere sectors where productivity has grown relatively slowly. As can be seen from table 3.8.4, this type of structural shift (Component 2) often wholly or partly offset gains associated with the redeployment of production factors to more factor-productive sectors. This underlines the importance in the future of ensuring higher rates of productivity change in industry and in other sectors where capital intensity is rising relatively fast.

Within industry, the highly capital-intensive fuel and, in most countries, energy branches have both registered lower rates of labour productivity growth and bigger capital productivity declines in recent years than the average for industy as a whole. It is these branches where both investment allocations and—though to a much smaller extent—employment have grown fastest in recent years. Some other priority growth sectors have shown factor productivity gains at rates close to or above the industrial average (chemicals, engineering).

It is likely that the shift of factor inputs — notably investment — into the fuel/energy complex, will peak during the current five-year plan period 1986-1990. The two branches together accounted in 1984 for some 34-40 per cent of total industrial investment in five of the seven countries, and over a quarter in Bulgaria and the German Democratic Republic. Slower growth of investment in these two branches should free resources within industry for use in branches which are less capital-intensive and/or where productivity growth is faster. This could have significant output growth-enhancing effects not only in industry itself, but also on the material sphere as a whole.

A final step in this examination was to aggregate the separate findings on fixed assets and employment, in order to illustrate total factor input and total factor productivity changes relative to output growth (table 3.8.5). The combined productivity components so derived are termed "intensive" growth factors, and the combined input components are termed "extensive" factors.

It should be noted that the productivity components described earlier cannot be weighted in the same way as the factor

TABLE 3.8.4

Structural change and output growth, 1971-1983
(*Total output growth = 100*)

	Fixed assets						*Employment*					
	Material sphere			*Industry*			*Material sphere*			*Industry*		
	1975/ 1970	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*	*1975/ 1970*	*1980/ 1975*	*1983/ 1980*
Bulgaria												
Component 1	32	−6	−3	−1	24	−5	4	5	18	−5	—	—
Component 2	−5	−1	1	4	−6	6	−6	−12	−19	6	—	−1
Net	27	−7	−2	3	18	1	−2	−7	−1	1	—	−1
Czechoslovakia												
Component 1	13	11	−5	5	−2	−6	7	5	18	1	1	2
Component 2	−8	−6	5	−3	2	5	−8	−6	−21	−1	−1	−1
Net	5	5	—	2	—	−1	−1	−1	3	—	—	1
German Democratic Republic												
Component 1	9	10	3	..	..	..	1	1	1	—	4	—
Component 2	−6	−6	−3	..	..	..	−1	−1	−1	1	−3	—
Net	3	4	—	..	..	..	—	—	—	1	1	—
Hungary												
Component 1	45	76	30	—	11	−13	3	—	−11	4	6	23
Component 2	−27	−42	−21	—	−6	13	−4	3	21	−6	−7	−24
Net	17	34	9	—	5	—	−1	3	10	−2	−1	−1
Poland			[a]			[a]			[a]			[a]
Component 1	11	107	2	7	−1	−1	8	−27	8	−2	—	−23
Component 2	−7	−24	−1	−4	2	−5	−12	17	−6	2	—	16
Net	4	83	1	3	1	−6	−4	−10	2	—	—	−7
Romania												
Component 1	—	6	24	..	..	..	25	23	9	−7	—	3
Component 2	—	−2	−13	..	..	..	−31	−25	−9	6	—	−1
Net	—	4	11	..	..	..	−6	−2	—	−1	—	2
Soviet Union												
Component 1	6	8	4	−1	−5	−5	2	7	3	−5	−5	—
Component 2	−2	−4	−3	—	2	4	−5	−8	−3	5	4	—
Net	4	4	1	−1	−3	−1	−3	−1	—	—	−1	—

Source: ECE secretariat estimates based on national statistics

Note: *Component 1* arises from shifts of factors between sectors or branches with different factor productivity levels. *Component 2* arises from shifts of factors between sectors or branches with different rates of factor productivity growth. Based on a 6-sector (5 in Romania and the Soviet Union) breakdown of the material sphere (net output basis) and an 11-branch (10 in the German Democratic Republic) breakdown of industry (gross output basis).

[a] Since output growth was negative, the signs should be reversed when interpreting these entries.

input components. This is because these components of output growth result from *combinations* of the two factors concerned. For example, a given change in total productivity cannot be attributed separately to changes in capital or in labour productivity, since it arises as a joint effect of them both. Labour productivity may be boosted by more (or better) machinery, while higher capital productivity may result if more (or more highly-skilled) labour becomes available. For this reason, in table 3.8.4 the intensive (productivity) component of growth is shown as the difference between the sum of the separately weighted labour and capital input components described above, and total output growth. This means that, unlike the "basic" productivity concept used earlier, it also includes the two structural and the "interaction" components for which no accurate weighting can be found either. [332]

A number of methodological and other weaknesses of the aggregation procedure itself should also be noted. First, by "total" factor inputs is meant fixed assets and employment only. This limitation is justifiable for the total economy for which, as noted earlier, output data on a net basis (i.e., after deduction of material inputs, including depreciation, from gross output) was used. In contrast, the results for industry disaggregated by branch are based on gross output data. The two-factor approach has nonetheless been retained, thereby leaving out of account changes in material inputs per unit of output (or in its less widely used reciprocal expression, material input productivity). This omission, dictated by the lack of information available on industrial material inputs by branch in most of the countries examined makes no difference to the relative trends of the total (two-factor) industrial input and productivity components. The share of material inputs in gross output is as high as 60 per cent of gross industrial output—but changes in their productivity, though in general positive, have been small (a maximum of 0.5 per cent annually except in the German Democratic Republic in 1980-1983 and in Poland in 1970-1975 where they were somewhat bigger). [333]

A second possible source of error arises from the weighting of the two production factors. A total factor productivity input series could, in principle, be constructed on the basis of the ac-

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[332] The total productivity component of output growth between the year o and t can also be derived directly as the residual betwen output growth (Y_t/Y_o) and the sum of the separately-weighted labour input $a_l(L_t/L_o)$ and capital input $a_k(K_t/K_o)$ components, where $a_l = 0.65$ and $a_k = 0.35$. See below for a discussion of coefficients a_l and a_k.

[333] United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp. 95-96.

TABLE 3.8.5

Factor inputs, productivity and output growth, 1975/1970 to 1983/1980

(Total output growth = 100)

	Material sphere			Industry		
	1975/1970	1980/1975	1983/1980	1975/1970	1980/1975	1983/1980
Bulgaria						
Extensive factors (inputs):						
Employment growth	1	—	12	14	10	16
Fixed asset growth	48	57	74	35	47	63
Total	49	57	77	49	57	79
Intensive factors (productivity):	51	43	14	51	43	21
Czechoslovakia						
Extensive factors (inputs):						
Employment growth	3	6	21	5	8	13
Fixed asset growth	36	64	235	29	49	101
Total	39	70	256	34	57	114
Intensive factors (productivity):	61	30	−156	66	43	−14
German Democratic Republic						
Extensive factors (inputs):						
Employment growth	1	8	4	..	..	..
Fixed asset growth	39	49	49	..	..	..
Total	40	55	53	..	..	..
Intensive factors (productivity):	60	45	47	..	..	..
Hungary						
Extensive factors (inputs):						
Employment growth	−1	−16	−25	1	−27	−81
Fixed asset growth	36	73	82	48	84	87
Total	35	57	57	49	57	6
Intensive factors (productivity):	65	43	43	53	41	101
Poland						
Extensive factors (inputs):			[a]			[a]
Employment growth	12	38	16	18	2	53
Fixed asset growth	28	462	−24	35	81	−39
Total	40	500	−8	53	83	14
Intensive factors (productivity):	60	−400	108	47	17	86
Romania						
Extensive factors (inputs):						
Employment growth	1	2	5	..	..	..
Fixed asset growth	42	58	117	..		..
Total	43	60	122	..	..	..
Intensive factors (productivity):	57	40	−22		..	..
Soviet Union						
Extensive factors (inputs):						
Employment growth	15	15	10	12	23	14
Fixed asset growth	57	64	66	41	65	66
Total	72	79	76	53	88	80
Intensive factors (productivity):	28	21	24	47	12	20

Note: Extensive factors are changes in employment and fixed assets over the periods shown. *Intensive factors* are residuals between the sum of these two components, weighted at 0.65 and 0.35 per cent respectively, and total output growth over the corresponding periods.

Material sphere output aggregate is NMP. Industrial output aggregate is gross industrial production.

[a] Since output growth was negative in 1983/1980, the signs shown should be reversed when interpreting these entries.

tual weights in each year of labour costs (the sum of hourly wage rates times hours actually worked) and the annualized cost of the fixed assets used (however defined). Alternatively, following procedures used in some centrally planned economies, the weighting could be based on the assumed shares of employment ("live labour") and of past labour ("embodied labour") incorporated into the fixed assets employed. This, however, could also be questioned on theoretical grounds. [334] In the calculations presented, a "normative" weighting, based on ECE secretariat practice in previous work on industry, of 35 per cent in the case of fixed assets and 65 per cent for the labour input has been used. [335]

Possible differences between the industry sector itself and the material sphere as a whole have been ignored. They may not in fact be very significant since industry is the biggest component of the material sphere, while the effect of the highly capital-intensive transport and communication sectors is largely offset by the relatively low capital-intensive sectors of agriculture and construction. To summarize, the ratio can certainly be questioned, but there is little information available to justify changing the admittedly rather crudely based ratios used in the past.

To check the sensitivity of the results to different capital/labour input ratios, some variants were tested. The use of a 30:70 ratio made no substantial difference to the relative size of the intensive and extensive factor components. At the other end of the scale, use of a 45:55 per cent ratio reinforced the trend of the results presented in all countries. The generally declining or negative contribution of intensive factors shown in table 3.8.5 became much more apparent, and in fact the higher weighting of the fixed asset component reduced the intensive (factor productivity) component of growth to zero in some cases.

The results presented in table 3.8.5 indicate that growth of NMP in 1976-1983 was more factor extensive than in 1971-1975 in all seven countries—considerably more so in the Soviet Union. In all east European countries, the productivity component of NMP growth fell between 1971-1975 and 1976-1980, and declined further in 1981-1983 in most of them. However, in Hungary, the German Democratic Republic and the Soviet Union the share of intensive factors increased in 1981-1983 as compared with 1976-1980. In the first two countries, the improvement in the early 1980s reflected also much slower employment growth in the first case and continued declines in employment in the second. The movement also resulted from the fact that in both countries, the capital productivity decline was, as already shown in table 3.8.1 above, small relative to the other countries of the area.

In industry, for which branch-specific data on both employment and fixed assets are available for five countries only, the movements were generally similar to those in the material sphere. Only in Hungary did the productivity component rise over the three sub-periods covered. In that country, the absolute decline in industrial employment was substantial, and the rate of fixed asset growth halved, between the early 1970s and the early 1980s.

The total factor productivity component in 1971-1975 was equivalent to over half of total NMP growth in eastern Europe, and for between one quarter and one third in the Soviet Union. [336] By 1981-1983, it was negative in three countries (Czechoslovakia, Poland and Romania) and had fallen to less than half of its 1971-1975 share in all other countries but Hungary. The movement was broadly similar in industry, whereas for most countries of eastern Europe the productivity component in 1981-1983—40-60 per cent of output growth in 1971-1975—fell sharply and even became negative in Czechoslovakia and Poland. It declined to about half the 1971-1975 level in Bulgaria and the Soviet Union. Again, Hungary presents a sharp contrast with the other countries, productivity gains having far exceeded the total factor input component.

(d) The decline in capital productivity

The fall in capital productivity has clearly affected total productivity since 1970 in all seven countries reviewed. Some of the factors contributing to declining capital productivity levels can be put as follows:

— high shares of investment in energy and other capital-intensive branches which do not directly bring a proportional increment in NMP;

— shift of production to distant locations (in the Soviet Union, to the eastern areas of the country);

— reduction in capital utilization rates;

— real increases in the capital cost of production ("*udorozhanie*") independent of fixed capital price rises;

— environmental capital expenditure.

Though their impact — due to data availability constraints — cannot be systematically determined, there is evidence that the factors listed here play a significant role in capital productivity changes in most of the countries concerned. In some, it is well known that the exhaustion of the more rapidly accessible mineral and fuel resources has increased the capital intensity of output in the extractive industries. However, one Soviet commentator notes that regional shifts of productive capacity are often compensated by the fact that, though capital intensive, they may yield much higher output per unit of investment than expenditures in the traditional producer regions. This applies particularly to the extractive industries where regional relocation has been most marked. Capital expenditures in remote regions also still represent a relatively small fraction of total investment (the same author states that Siberia and the Far East together account for 16-17 per cent of the total volume of all Soviet investment). The author also notes that environmental expenditures account only for 1-1.5 per cent of total investment in the Soviet Union.[337]

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[334] The shares of fixed assets and employment contributions attributed to factor productivity could have been based on the relative shares of allocation of net material product for domestic utilization to accumulation and consumption. These also vary between the countries concerned and in each of them in various years. See for example, *Statisticheskii ezhegodnik stran chlenov SEV 1984* (CMEA Statistical Yearbook 1984), Moscow, 1984, p. 10.

[335] In fact, in previous secretariat studies a ratio of 40:60 was originally used for industry, and subsequently a ratio of 30:70. See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1980*, New York, 1981, p. 119 . 221. The above ratio therefore represents a compromise. Econometric analysis, presented in sub-section (ii)(a) below (tables 3.8.5-3.8.7) derives labour shares varying between close to zero and close to one according to the country and the functions used. These results are, moreover, highly sensitive to the time period chosen.

[336] This is confirmed by several Soviet studies. See for instance an article by V. N. Kirichenko: "Sovershenstvovanie inestitsionnogo protsessa — vazhny faktor intentsifikatsii obshchestvennogo proizvodstva" (The perfecting of the investment process — an important factor in the intensification of social production), *Izvestiya akademii nauk SSSR, Seriya ekonomicheskaya*, 1985, No. 2, p. 14. A broadly similar estimate was given by Academician A. Aganbegyan: "Up to this time, national economic development has occurred to the extent of two thirds by the addition of extra productive resources—that is, extensively". *Trud*, 28 August 1984.

As noted earlier, the concept of capital (and indeed labour) productivity as used in this study also incorporates the effects of changes in *capacity utilization rates*. It is a reasonable supposition that they have occurred, to a greater or lesser degree, in all countries of the region. One reason is the effect on output growth of the policy emphasis currently placed on input savings and also of cuts in raw material and fuel imports by east European countries. Though few measures of changes in capacity utilization are available for these countries, estimates for the Soviet Union suggest a 6 per cent fall between the first half of the 1970s and the early 1980s.[338] This could account for about 0.5 percentage points annually of the fall in capital productivity—approaching one fifth of the total decline.

Two final elements should also be mentioned. The first is the rise in costs of fixed assets per unit of output *capacity*. This phenomenon, referred to as "*udorozhanie*" in Soviet literature, has been discussed in several recent commentaries, though sometimes in terms which are imprecise. It appears to arise from the fact that new equipment to replace that of a technically less-advanced kind does not always justify its higher costs by proportionally better performance: labour costs and material intensity of the products which the new plant manufactures are not always reduced and maintenance costs are sometimes higher. A related factor mentioned in one of the articles quoted is that new technical or quality/performance norms applied to products may cost substantially more than in the past.[339] For instance, in construction the use of reinforced concrete per unit of housing space has doubled, largely due to failure to adopt lightweight panel-building techniques to comply with new insulation standards. Equipment costs increase also because of the exessively high metal-intensiveness of new machinery output.

It has also been suggested that some element may be purely statistical—namely, that an element of price increase may have been included in fixed assets volume series. This may be true to some extent for Bulgaria and Romania, where the fixed asset series used are in fact based on the actual cost at prices in the year of acquisition. (However, implicit investment price deflators changed little in 1970-1980 in these two countries and some time would need to elapse before price changes substantially affected conclusions as to the volume change of fixed assets.) A comparison of relevant output price changes (engineering goods, construction materials and construction work) with implicit price deflators for investment and fixed assets reveals no noticeable anomalies in this respect, except possibly for the Soviet Union. It is assumed, therefore, that the trends apparent from the results presented above are not invalidated by concealed price changes or other statistical shortcomings, though the results themselves may not be very precise.

With these reservations, the conclusions of this exercise can be summarized as follows. Output growth in the seven countries still mainly depends on increasing the quantity of factors employed. In most countries of eastern Europe, but not in the German Democratic Republic or the Soviet Union, NMP growth in recent years has become more "extensive" in character — and in almost all countries so has industry. Total productivity over the period reviewed has been held back, and the process of intensification impeded, principally by the large and still unchecked decline in capital productivity since the beginning of the last decade. This has held back the productivity performance of other factors also, and points up the need to examine total factor productivity more closely.

To do so, it is necessary to extend the search to more general problems of economic development: how much has technological progress contributed to the rise in total productivity? What role has been played by changes in the efficiency with which the economy is managed? What is the reason for the slowdown in output growth—despite the big rises in capital intensity per employee intended to offset the slowdown in the growth of employment? These questions are taken up in more detail for industry in subsection (ii) below.

(ii) Interpreting recent total productivity developments in industry

The growth rates of industrial output decreased considerably in eastern Europe and the Soviet Union at the end of the 1970s and of the 1980s. It is also apparent that the total factor productivity (hereafter referred to as TFP) growth rates have fallen. It is, however, more difficult to assess what is the exact magnitude of the TFP growth rate decrease and, in particular, the reasons for it.[340]

This subsection studies some of the measurement problems of the TFP growth, particularly focusing on the problem of finding out by econometric methods the output elasticities of labour and capital respectively, given some alternative assumptions on the nature of technical change over time. The basic problem will be approached also by making use of the concept of the "production frontier", which allows a distinction between the concepts of *technological progress* and *technical efficiency change* to be drawn. The empirical analyses carried out in this connection are based on the same annual data for the six centrally planned eastern European countries and the Soviet Union used in the previous subsection, covering the period 1970-1983. The approach is limited to total industry only. The main output aggregate used is net industrial production. In order to find out whether some "structural" factors or measurement elements affect the results of the TFP growth estimates, the corresponding branch-level gross production and input data are also scrutinized.[341] These data give direct measures of the magnitude of the structural change in these countries during this period.

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[337] V. Krasovskii, "Intensifikatsiya ekonomiki i fondoemkost', proizvodstva", (Intensification and capital/output ratios), *Voprosy ekonomiki*, Moscow, 1985, No. 5, pp. 35-45.

[338] V. Fal'tsman, "Povyshenie otdachi osnovnykh fondov promyshlennosti" (Raising the productivity of industrial fixed assets), *Voprosy ekonomiki*, No. 3, 1985, pp. 44-55.

[339] V. Krasovskii, *loc. cit.*

[340] There are a number of analyses which try to measure the TFP growth rates in eastern Europe and the Soviet Union. For instance, reference can be made to the following articles: N. E. Cameron: "Economic Growth in the USSR, Hungary and East and West Germany", *Journal of Comparative Economics*, vol. 5, 1981, pp. 24-42; P. Desai: "The Production Function and Technical Change in Post-War Soviet Industry: A Re-examination", *American Economic Review*, June 1976, pp. 372-381, and "Total Factor Productivity in Post-War Soviet Industry and Its Branches", *Journal of Comparative Economics*, vol. 9, 1985, pp. 1-23; G. Tuitz: "Structural Changes and Productivity Development in Manufacturing Industries of the European Centrally Planned Economies", *The Vienna Institute for Comparative Economic Studies*, No. 85, April 1985; and R. S. Whitesell: "The Influence of Central Planning on the Economic Slowdown in the Soviet Union and Eastern Europe: A Comparative Production Function Analysis", *Economica*, No. 52, 1985, pp. 235-244.

(a) Some basic problems in measuring total factor productivity growth

When TFP measures are computed, the first problem is, of course, the data. The minimum required are for value added, the stock of capital and the stock of labour. As far as the data from eastern Europe and the Soviet Union are concerned, it has been assumed that measurement errors of these variables may be of considerable importance.[342]

However, there is no possibility of solving these fundamental measurement problems. Thus, one has to ask whether the TFP growth rates can be reliably estimated given the existing data. This question will be addressed in the following paragraphs.

Apart from these data questions, the estimation of the TFP growth rates requires some estimate of the output elasticities of different factors of production. The basic fact to be determined is the sum of these elasticities. If the empirical analyses make use of a homogenous production function, and if the degree of homogeneity is not restricted to unity, no clear distinction can be made between the effects of economies of scale on the one hand, and the effects of technical change on the other. Hence, this restriction must be imposed if output elasticities with respect to labour and capital are to be determined.[343]

This is typically done by estimating directly from the time series data either a Cobb-Doublas (hereafter CD) or a Constant Elasticity of Substitution (hereafter CES) production function, and making use of the respective parameter estimates in computing the measures for the TFP growth rates. In the case of the CD production function, the whole exercise boils down to estimating the following relationship:

(1) $\ln(y/k) = a_o + a_1t + a_2t^2 + a_3\ln(l/k) + u$,

where y denotes output, k capital and l labour, and t a linear time trend variable which should capture the effects of technical change (which are moreover assumed to be of Hicks-neutral type). Finally, u is the error term which is assumed to affect the level of output multiplicatively. As far as the functional form of equation (1) is concerned, the important point is that it implies constant returns to scale. Thus, after estimating this equation, it is possible to proceed further and compute the measures for the TFP growth rate, subsequently denoted by e, from the following simple formula:

(2) $e = \hat{y} - a_3\dot{l} - (\dot{1}\text{-}a_3)\dot{k}$

where the dots above variables indicate the backwards first log differences. Obviously, the magnitude of e can already be determined on the basis of the estimates of a_1 and a_2 in equation (1).

A survey of the existing literature dealing with the estimation of production functions with data from the eastern European countries and the Soviet Union suggests that sensitivity and imprecision are the most striking features of the results. In some studies, the estimated capital share is close to zero for most of the sample countries or branches and the labour share is correspondingly close to one, while almost the opposite is found in other studies.[344] Furthermore, even though the point estimates maké sense, the very large standard errors of the estimates, small sample sizes and residual autocorrelation do not permit strong inferences to be made about the exact magnitude of the labour share parameter a_3 in equations (1) and (2) above. On the other hand, even small changes in the values of a_3 significantly affect the TFP growth rate. For instance, ECE secretariat calculations suggest the following illustrative values of TFP growth rates for 1970-1983.

	e: $a_3 = .6$	e: $a_3 = .5$
Bulgaria	3.3	2.6
Czechoslovakia	1.0	0.5
German Democratic Republic	2.6	2.0
Hungary (1970-1982)	3.3	2.5
Poland	0.6	−0.1
Romania	2.3	1.6
USSR	1.7	1.0

It can, of course, be argued that the observed sensitivity reflects only some standard estimation problems—such as small sample bias, autocorrelation and so on—which could be avoided by alternative estimation procedures. But this does not seem to be the case. For instance, the use of first differences instead of levels when estimating equation (1), and the use of pooled data instead of individual country data, give no signs of improving the quality of the estimates. A condensed report of the respective experiments is presented in tables 3.8.6 to 3.8.8. From the statistical point of view, the most striking result is that it is not possible to reject the null hypotheses that a_3 is equal to 0; moreover, neither can the null hypothesis that a_3 is equal to 1 be rejected (not to mention the problem of parameter instability over time, and the appearance of some anomalous results, particularly in the case in which the quadratic time trend variable is omitted).

What is the reason for this lack of robustness? It seems that it mainly lies in the information content of the data. The variability of the basic time series is simply too small to allow for

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[341] Aggregation over sectors seems in some cases to produce results which are not economically meaningful. See, e.g., E. Silaev, and A. Baramidze: "The Impact of Factors of Production on the Economic Growth of Union Republics", *Problems of Economics*, December 1983, pp. 23-39. Silaev and Baramidze find the elasticity of the growth of net output due to growth of work force to be negative for the total industry. This they attribute mainly to a very strong effect on the part of the fuel industry.

[342] An example of these kind of arguments is P. Desai: "Total Factor Productivity in Postwar Soviet Industry and its Branches" *Journal of Comparative Economics*, No. 9, 1985, pp. 1-23.

[343] Obviously, the question can be approached in another way by first estimating a production function in an unrestricted form and then interpreting the degree of homogeneity (scale elasticity) as an indicator of the existence of "intensive factors" of production (i.e., embodied and disembodied technical change). This kind of analysis is carried out in D. Cherikov: "Modeli vzaimosviazi tempov i tak formov ekonomicheskogo rosta" (Model of Mutual Relationships between Rates and Forms of Economic Growth), *Planovoie Khoziaistvo*, No. 6, 1979, and D. Zhantsan: "Kharakteristika i modelirane na ikonnomicheskiya rastezh na Mongolskata Narodna Republika" (The characteristics and modelling of economic growth in the Mongolian Peoples' Republic), *Ikonomicheska Mis'l*, No. 28, 1983. Both of these studies make use of the Cobb-Douglas production function and both of them produce the result that the contribution of the "intensive factors" is of considerable importance (accounting for about 40 per cent of the total economic growth). See also G. B. Kleiner and B. N. Sirota: "Ob odnom klasse proizvodstvennykh funktsii" (Concerning One Class of Production Functions), *Ekonomika i matematicheskie metody*, vol. 12, No. 1, 1976, pp. 48-55.

[344] See, for instance, the survey of J.C. Brada: "The Slowdown in Soviet and East European Growth", *Osteuropa-Wirtschaft*, vol. 30, No. 2, 1985, pp. 116-127; J. Klacek, and A. Nešporová: *Produkčné funkce a modelování ekonomického růstu v ČSSR* (Production Functions and Modelling Economic Growth), Academia, Prague, 1983; N. Cameron: "Economic Growth in the USSR, Hungary, and East and West Germany, *Journal of Comparative Economics*, No. 5, 1981, pp. 24-42; P. Desai: "The Production Function and Technical Change in Postwar Soviet Industry: A Re-examination", *American Economic Review*, June 1976, pp. 372-381; M. Nashilovsky: "Empiryczna werifikacja funkcji produkcji Cobb-Douglasa" (Empirical Verification of the Cobb-Douglas Production Function), *Ekonomista*, No. 4, 1980.

TABLE 3.8.6

OLS estimation results of a Cobb-Douglas production function

Country	*Constant*	*ln(l/k)*	*t*	*100*t^2*	*SEE*	*D-W*	*R^2*
Bulgaria	−0.103 (1.59)	0.932 (1.36)	0.077 (1.72)	−0.163 (2.85)	0.031	1.078	0.974
Czechoslovakia	−0.006 (0.16)	−0.595 (1.01)	−0.003 (0.11)	−0.316 (10.51)	0.016	1.741	0.979
German Dem. Rep. ..	−0.018 (1.75)	0.317 (2.14)	0.016 (1.81)	−0.394 (3.80)	0.005	2.194	0.980
Hungary	−0.091 (2.37)	0.674 (1.63)	0.071 (2.28)	−0.224 (4.24)	0.020	1.652	0.948
Poland............	−0.042 (0.58)	−0.061 (0.16)	0.047 (1.26)	−0.628 (6.42)	0.047	1.517	0.960
Romania	−0.080 (2.62)	0.588 (1.80)	0.059 (3.04)	−0.246 (6.09)	0.018	1.672	0.965
Soviet Union........	−0.048 (1.99)	0.433 (1.12)	0.038 (1.45)	−0.206 (9.10)	0.008	1.101	0.993

Source: National statistical publications and ECE secretariat estimates.

Note: The dependent variable is ln(y/k). SEE is the standard error of the regression, D-W is the Durbin-Watson test statistics, and R^2 is the (unadjusted) multiple correlation coefficient. Numbers in parentheses are t-ratios. The period of estimation is 1970-1983 for all countries except Hungary (1970-1982). The critical value of the t-statistics at the 5 per cent level of significance is 2.23. Due to strong autocorrelation, the displayed t-statistics are upward biased, and hence comparisons with the critical level(s) give a too optimistic impression of the accuracy of the parameter estimates.

TABLE 3.8.7

OLS estimation results of a Cobb-Douglas production function using first differences of the data

Country	*Constant*	*d ln(l/k)*	*100*t*	*SEE*	*D-W*	*R^2*
Bulgaria	0.057 (1.52)	0.818 (1.46)	−0.163 (0.70)	0.031	1.215	0.231
Czechoslovakia	0.036 (0.88)	0.270 (0.35)	−0.530 (3.69)	0.019	1.646	0.583
German Dem. Rep.	0.017 (1.42)	0.439 (2.07)	−0.000 (1.45)	0.007	2.014	0.942
Hungary....................	0.095 (2.31)	1.125 (2.25)	−0.276 (1.37)	0.024	2.199	0.476
Poland	0.041 (0.72)	0.077 (0.13)	−0.911 (2.18)	0.056	1.292	0.325
Romania....................	0.055 (2.08)	0.652 (1.47)	−0.380 (1.94)	0.023	1.761	0.528
Soviet Union	0.046 (1.74)	0.606 (1.612)	−0.364 (5.36)	0.008	0.960	0.752

Source: National statistical publications and ECE secretariat estimates.

Note: The dependent variable is d ln(y/k), where d indicates the backwards first difference operator. Numbers in parentheses are t-ratios. The period of estimation is 1971-1983 for all countries except Hungary. The sample period for Hungary is 1971-1982.

The results of tables 3.8.6 and 3.8.7 are comparable in the sense that the constant term in table 3.8.7 corresponds to the coefficient of the time trend variable t in table 3.8.6, and the coefficient of t in table 3.8.7 corresponds to that of t^2.

TABLE 3.8.8

OLS estimation results of a Cobb-Douglas production funtion with pooled cross-country data of eastern Europe and the Soviet Union

Equation	*Constant*	*d ln(l/k)*	*100*t*	*SEE*	*D-W*	*R^2*	*Sample period*
(1)	0.039 (..)	0.384 (1.93)	−0.409 (4.98)	0.029	1.253	0.323	1971-1983 [a]
(2)	0.041 (..)	0.721 (4.29)	0.012 (0.08)	0.014	1.439	0.446	1971-1976
(3)	0.096 (..)	1.295 (2.94)	−0.383 (2.07)	0.023	1.561	0.415	1977-1983 [a]

Source: National statistical publications and ECE secretariat estimates.

Note: The dependent variable is d ln(y/k). Numbers in parentheses are t-ratios. Individual country intercepts were included in estimation; they are not, however, displayed. The unweighted average of these intercepts is reported as the constant term. The full sample includes 90 observations. Estimation makes use of unweighted observations.

[a] The last observation of the sample for Hungary is 1982.

precise estimation of any parameters. In particular, the stock of labour has been almost constant for total industry in the east European countries and the Soviet Union. Thus, the average annual growth rates of employment in these countries during the period 1970-1983 are around 1 per cent (an unweighted average over all countries is 1.2 per cent, but if Romania is excluded the figure drops to 0.7 per cent). And, perhaps more importantly, the variations in the annual growth rates over time are very small. The latter property also holds for the growth rate of the capital stock and, to a lesser degree, of output. This also seems to be true for the branch-level data. On the other hand, the problem of outliers with this kind of data can be really serious.

Unfortunately, there seems to be very little possibility of solving this puzzle. The use of a more sophisticated indicator of labour input would obviously make a great difference. The fact that the number of industrial employees has been constant does not, of course, provide any information of the behaviour of the "true" labour input measured in some sort of efficiency units.[345] Price/cost information, if available, could presumably change the whole situation.

For the time being, therefore, it seems that it is not possible to calculate measures of TFP growth rates for the eastern European countries and the Soviet Union with any great precision. As noted earlier, this means that the conclusions reported in this and various other studies should be considered with all due reservations.

(b) Distinguishing between technological progress and technical efficiency change

Thus far, the concept of total factor productivity change has been used synonymously with the concept of technological change. This means, however, abstracting from the analysis the role of efficiency change. Efficiency change, in turn, becomes an apparent focus variable if the so-called *frontier production function* approach is used as a theoretical frame of reference.[346] This approach has the advantage of making a distinction between the best-practice production frontier (and the firms operating just at this frontier), and the average production relationship. A corresponding distinction can be made between the change of the best-practice production frontier and the change in all firms' positions *vis-à-vis* the frontier. This first element can be termed "technological progress" and the second element "technical efficiency change".[347]

Unfortunately, this kind of analysis cannot be carried out without serious computational and data problems. The estimation procedure requires a rather complicated maximum likelihood routine (even though also some approximative linear programming methods have been proposed and applied).[348] Also in terms of data, this approach makes heavy requirements; preferably one should have pooled time series/cross-section data from individual production plants. Unfortunately, this kind of data is hardly available for eastern European countries or the Soviet Union.[349]

Thus far, there are only two studies which apply this frontier production function approach to socialist economies. The study of Nishimizu and Page[350] makes use of Yugoslav data. The pooled data used cover 26 social sectors and eight regional cross-sections, the time period being 1965-1978. This study concludes that the role of technical efficiency had considerably changed in Yugoslavia in the beginning of the 1970s. Thus, the period 1965-1970 could be characterized by generally improving levels of technical efficiency (together with significant technological process), while technical efficiency started to deteriorate thereafter—to such an extent that the deterioration dominated positive technological progress.

The joint Soviet-American study of Danilin *et al.* (1985),[351] in turn, makes use of Soviet micro-data consisting of 151 cotton refining plants which could be divided into two vintage categories (prior to 1961, and after that year; the sample year is 1974). Estimation is carried out by using the appropriate maximum likelihood method. The main result of this study is that the estimated mean technical efficiency is high and its dispersion is small. As far as technological progress is concerned, the respective average annual rate is estimated to be about 1 per cent (given, of course, the vintage specification). One interpretation of the results is that the potential gains in terms of technical efficiency change in the Soviet industry are relatively small, the result being thus in accordance with that of Nishimizu and Page (1982).[352]

Analyses carried out by the ECE secretariat point in the same direction as Nishimizu and Page (1982)[353] and Danilin *et al.* (1985).[354] They indicate that the role of technical efficiency change in eastern Europe is not of significent positive importance. In order to give some flavour to the respective results, the following sample average values obtained with pooled cross-country data are presented: the average annual change rate of technological progress and technical efficiency as well as the implied total factor productivity growth rate (table 3.8.9).

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[345] This point is indeed very much discussed in the literature of east European countries and the Soviet Union, and some empirical experiments have been made to construct quality indices for labour. Given the availability of data, there seems, however, to be no useful alternative to the pure employment/man-hour measure. See, e.g., S. Nagy: "An Analysis of Economic Growth with a Technical Progress Function", *Acta Oeconomica*, No. 29, 1982, pp. 97-112; V. Spěváček: *Metodologie dlouhodobych ekonomickych prognóz* (Methodology of Long-Term Prognosis), SNTL, Prague, 1980; and O. Golosovskii and B. Grinchel: "Scientific-Technical Progress and National Income", *Problems of Economics*, May 1977, pp. 23-45.

[346] For an exhaustive survey on this approach, see F.R. Førsund, C. A. Lowell, and P. Schmidt: "A Survey of Frontier Production Functions and of Their Relationship to Efficiency Measurement", *Journal of Econometrics*, May 1980, pp. 5-27).

[347] See M. Nishimizu and J. M. Page: "Total Factor Productivity Growth, Technological Progress and Technical Efficiency Change: Dimensions of Productivity Change in Yugoslavia, 1965-78", *Economic Journal*, December 1982, pp. 920-936.

[348] See Nishimizu and Page (1982), *op. cit.* The use of the linear programming approach is commented in D. J. Aigner and S. F. Chu: "On Estimating the Industry Production Function", *American Economic Review*, December 1968, pp. 826-839.

[349] There is, however, one study which uses Soviet plant level data from cotton refining industry. See V. I. Danilin, I. S. Materov, S. Rosefielde and C. A. K. Lowell: "Measuring Enterprise Efficiency in the Soviet Union: A Stochastic Frontier Analysis", *Economica*, May 1985, pp. 225-233.

[350] *Op. cit.*

[351] *Op. cit.*

[352] Obviously, there is a lot of disagreement concerning the result that the *level* of efficiency is high in the Soviet industry. See for instance, P. Desai and R. Martin: "Efficiency Loss from Resource Misallocation in Soviet Industry", *Quarterly Journal of Economics*, August 1983, pp. 441-456.

[353] *Op. cit.*

[354] *Op. cit.*

TABLE 3.8.9

Estimated components of total factor productivity growth (e) in eastern Europe and the Soviet Union

(Per cent, 1971-1982) [a]

Equation	*Total factor productivity*	*Technological progress*	*Technical efficiency*	*Data*
(1)........	1.7	2.5	−0.8	Unweighted data
(2)........	0.5	0.5	–	Weighted data [b]

Source: National statistical publications and ECE secretariat estimates.

[a] The data are derived from the net output of total industry in Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania and the Soviet Union.

[b] The 1975 weights for gross industrial production are used in weighting the observations. The weights are based on ECE secretariat estimates.

The estimation procedure is similar to the linear programming model used by Nishimizu and Page (1982). [355]

The results obtained indicate that, while technological progress has undoubtedly contributed positively to output growth, the role of technical efficiency change is less clear. On the basis of all results—with individual country data and with pooled cross-country data—it is tempting to conclude that the role of technical efficiency change in eastern Europe and the Soviet Union has not been of great importance, and that its real contribution during the last decade has presumably been negative rather than positive. In general, however, the main explanation of the slowdown in output growth rates cannot be found from this source.

(c) Searching for an explanation of the slowdown of output growth

The previous sections have mainly addressed the difficulties which arise when the determinants of output growth in eastern Europe and the Soviet Union are analysed. Even though various measurement and estimation problems do exist, it should, of course, be possible to find some explanations for the slowdown of output growth rates at the end of the 1970s and the beginning of the 1980s.

Of course, it should be recalled at the outset that all production function estimation results carried out in the ECE and elsewhere indicate that the contribution of technical change is continuously decreasing (see estimates for parameters a_1 and a_2 in equation (1) above included in tables 3.8.6 and 3.8.7). Even though the reliability of these results can be questioned, and even though the figures tell very little about causality—for instance in terms of the actual process of innovations, technology imports, human capital accumulation—they may help to evaluate the importance of some "structural fundamentals" which certainly affect the growth rates. [356, 357]

Even though technical change in its various forms does affect output growth rates, the growth rates of inputs need to be examined to find out the underlying determinants of output growth. On this basis some very obvious explanations can be put forward.

First of all, the growth rates of employment (measured in the number of employees) in the total industrial sector have been very low during the last decade (average annual growth rates of about 1 per cent) and even these growth rates are continously declining. Only capital inputs have grown at relatively high, but also clearly decreasing, rates. Thus, the direct contribution of inputs is also diminishing. But this does not necessary tell the whole story. The capital intensity of labour has also grown very strongly. This is not necessarily a problem if the elasticity of substitution between these factors of production is one. But if the elasticity of substitution between capital and labour is less than one, the fastest growing factor will be hit more and more by decreasing returns. It also means that the measure of aggregate input growth will increasingly reflect the slowdown in the growth rate of labour, and aggregate input growth will also slow down. In the extreme case, where the elasticity of substitution equals zero, the growth of output would, in turn, just equal the growth rate of labour input plus the contribution of technical change. This fact should also be borne in mind when evaluating the values of the TFP growth rates. The significance of this point for the analysis of eastern European countries and the Soviet Union lies in the fact that most of the empirical studies indicate that the elasticity of substitution is indeed less than one. [358]

During the course of this study, some experiments were also made to determine the value of the elasticity of substitution for the countries reviewed. In general, the results suggest that the actual value of s is far below one. For instance, when the data from these seven countries were pooled, an estimate of 0.10 was obtained for the elasticity of substitution. (However, this parameter could only be estimated with a very large standard error. Hence, no attention should be paid to its exact value.) Thus, the huge increases in the stock of capital which have taken place in eastern Europe and the Soviet Union may suffer crucially from diminishing returns to factor proportions. Obviously, the low parameter value of s is not the real reason: this value only reflects some built-in rigidities of the production system.

Most of the conclusions above are based on data from total industry. One might thus ask whether some *structural* elements have either positively or negatively contributed to output growth. That is why it is worthwhile to consider branch-level data.

Table 3.8.10 contains cross-sectional variances over branches

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[355] Here can be examined the output elasticities of labour and capital which produce the TFP growth rates implied by the frontier production function estimation procedure (see column 1 of table 3.8.9). It turns out that the following possible values for a_3 give the relevant range for the obtained values:

	e: LP	e:a_3 = .7	e:a_3 = .6	e:a_3 = .5	e:a_3 = .4	e:a_3 = .3
unweighted	1.7	2.9	2.2	1.5	0.8	0.1
weighted.......	0.5	2.5	1.8	1.2	0.5	−0.1

LP refers to the linear programming solution reported in table 3.8.9, a_3s are the possible values of the output elasticity of labour. Clearly, the output elasticities implied by the linear programming solution for the frontier production function are not completely implausible (compare them, for example, with those in tables 3.8.6 and 3.8.7).

[356] E. Silaev and A. Baramidze (1980), *op. cit.*, present some estimates of the *average* contribution of scientific and technical progress with respect to labour productivity. These estimates imply similar values to those obtained in this study.

[357] Obviously, the functional specification of technical change in terms of the time trend variables is very crude, and it implies unrealistic asymptotic values for the contribution of technical change to output growth. It is still interesting to note that according to the estimation results in table 3.8.6, for instance, the direct contribution of technical change for the first five years of the sample period is of the order of about 5 per cent, while the predicted effect for the last year in the data sample is no more than 1 or 2 per cent (being negative in the case of the German Democratic Republic).

[358] See, e.g., J. Klacek, and A. Nešporová: *Produkční funkce a modelování ekonomického růstu v ČSSR* (Production Functions and Modelling Economic Growth in Czechoslovakia), Academia, Prague, 1983; M. L. Weitzman: Soviet Postwar Economic Growth and Capital-Labour Substitution", *American Economic Review*, September 1970, pp. 676-692; and N. E. Cameron: "Economic Growth in the USSR, Hungary, and East and West Germany", *Journal of Comparative Economics*, No. 5, 1981, pp. 24-42; M. Goga: "Meranie podielu extenzívnich a intensévnich faktorov na celkovom prirastku národneho dochodku SSR ulplne dynamizovanou výrobnou funkciou typu CES" (Measuring the share of Intensive and Extensive Factors on the Total Growth of National Income in the Slovakian Socialist Republic), *Ekonomický časopis*, No. 31, 1983; A. Sapir: "Economic Growth and Factor Substitution: What Happened to the Yugoslav Miracle", *Economic Journal*, No. 90, June 1980, pp. 294-313.

TABLE 3.8.10

Sectoral growth rates of gross industrial production, 1971-1983
(Variances in per cent) [a]

	Bulgaria	*Czecho-slovakia*	*German Dem. Rep.*	*Hungary*	*Poland*	*Romania*	*USSR*
1971	0.33	0.03	0.05	0.14	0.09	0.17	0.04
1972	0.42	0.04	0.05	0.16	0.06	0.77	0.07
1973	0.97	0.09	0.04	0.14	0.06	0.24	0.07
1974	0.18	0.03	0.07	0.11	0.07	0.20	0.06
1975	0.20	0.05	0.02	0.12	0.05	0.17	0.04
1976	0.13	0.10	0.03	0.08	0.06	0.11	0.08
1977	0.16	0.11	0.02	0.02	0.04	0.14	0.05
1978	0.08	0.01	0.02	0.21	0.03	0.17	0.04
1979	0.06	0.03	0.07	0.07	0.43	0.13	0.06
1980	0.12	0.06	0.06	0.08	0.08	0.12	0.04
1981	0.69	0.02	0.09	0.20	0.23	0.07	0.03
1982	0.26	0.04	0.08	0.13	0.28	0.05	0.02
1983	0.21	0.02	0.05	. .	0.07	0.05	0.04

Source: National statistical publications and ECE secretariat estimates.

[a] The computed cross-section variances are based on unweighted gross industrial production figures. The sample period for Hungary is 1971-1982.

for the growth rates of industrial output. These figures, taken in conjunction with branch data on the growth of output, employment, fixed assets and fixed assets per worker (not presented here), and on capital and labour productivity changes, (tables 3.8.1 and 3.8.2 of subsection (i)) give some idea of the timing and the magnitude of structural change. In this connection, possible differences between individual countries have been abstracted. As the tabulated Kendall Coefficients of Concordance (W) indicate, the course of development in the sample countries seems, in fact, to follow a more or less similar pattern. In particular, this is true for output growth. With the relative growth rates of inputs there seem, however, to exist more country-specific elements: [359]

Focus variable	*W*	*Chi square*
Growth rate of industrial production .	0.7232	43.39
Growth rate of industrial employment	0.4495	26.97
Growth rate of fixed capital	0.4509	22.54
Sectoral shares of industrial production	0.6859	41.15
Output-capital ratio	0.5018	25.09
Labour-capital ratio	0.3709	18.54

It is not difficult to find out that the sectoral differences are generally very small. This is equally true for the growth rate of output as for the growth rates of labour and capital. The stock of labour has increased very slowly in almost all sectors; it is difficult to find a sector with clearly decreasing employment. As far as the growth of fixed assets is concerned, the general finding is that the growth rates are approximately of similar magnitude in all branches.

One possible way of analysing the magnitude of the structural change is to compare the ranks of different branches in terms of, say, the sectoral shares of industrial production, Y_i/Y, the output-capital ratios, Y_i/K_i, and the labour-capital ratios, L_i/K_i for the first year of the sample period, 1970, and for the last year of the sample period, 1983. When this exercise is carried out, the following values of the Spearman Rank Correlation Coefficient, r_s, emerge:

	r_s: Y_i/Y	r_s: Y_i/K_i	r_s: L_i/K_i
Bulgaria	0.668	0.955	0.946
Czechoslovakia	0.918	0.955	0.973
German Dem. Rep. ...	0.990	. .	. .
Hungary	0.927	0.823	0.946
Poland	0.982	0.981	0.946
Romania	0.864	. .	. .
Soviet Union	0.927	0.964	0.991

Clearly, the coefficients are very high, indicating that the qualitative differences between branches have remained almost unchanged. [360] Thus, it may be concluded that the growth contribution of structural change has not been of great importance. This conclusion seems to be well in accordance with the very small variances reported in table 3.8.10. It is also in line with the outcome reported in subsection (i) above and in some other recent empirical studies. [361]

Altogether, there are various aspects to the development of output growth in eastern Europe and the Soviet Union. Some, such as the low rates of employment growth and the deceleration of capital stock growth, are to some extent expected, given the level of development in these countries. However, some factors do not necessarily behave in a way which would be satisfactory from the economic policy point of view. It seems justified to refer at least to the following factors: the small structural change contribution, the decrease in technological progress, the apparent lack of improvement in technical efficiency and, finally, the low level of substitution possibilities in production. The last, in turn, imply diminishing returns to capital and lower overall economic growth (to say nothing of problems resulting from relative prices).

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[359] It should be emphasized, however, that the null hypothesis of no relationship between cross-country rankings can be rejected in all cases at the 5 per cent level of significance (but not in all cases at the 1 per cent level) using the chi square approximation: $X^2 = k(N-1)W$, for W (where k indicates the number of sample countries and N the number of sectors). The critical value of X_{10} at the 5 (1) per cent level of significance is 18.31 (23.30).

[360] The number of branches is 11 for all countries except for the German Democratic Republic, where the number is 10. For other details, see footnote to table 3.8.6. The critical values of r_s at the 5 per cent level of significance are 0.535 and 0.564 respectively, where the first figure refers to the case where the total number of branches is 11 and the second applies if the number is equal to 10. The corresponding critical values of r_s at the 1 per cent level of significance are 0.727 and 0.746 respectively. Thus, the hypothesis of no relationship between the values of r_s for the selected indicators in the years 1970 and 1983 (in the case of Hungary, the last year is 1982) can be clearly rejected at the 1 per cent level of significance in all cases except Bulgaria.

[361] See, e.g., G. Tuitz (1983), *op. cit.* When examining the time period 1966-1979, Tuitz finds, for instance, that the structural component influenced labour productivity only to a very small extent.

3.9 CHANGES IN RELATIVE PRICES IN 1970-1984

The aim of this section is to give a quantitative assessment of changes in relative prices in the six east European countries and in the Soviet Union. Changes in overall price levels themselves are shown, but not scrutinized here, since these developments are regularly commented on in this publication, at least as far as consumer and foreign trade prices are concerned.[362] But some of the methodological particularities of the underlying price statistics are discussed in detail, in order to facilitate a proper understanding of their content.

There is little systematic reporting in the countries concerned about changes in prices or price formation rules, particularly as far as producer (wholesales and procurement) prices are concerned. It is known, however, that despite an extensive scientific discussion on the subject, there is no single, universally accepted theory of price formation. The present *empirical* study, largely based on derived, implicit indices, suggests a similar conclusion with regard to recent price policies.

In general, domestic prices are mainly cost-based, but in some countries efforts have been made to bring relative price proportions closer to relations prevailing on the world markets (Bulgaria, Hungary, Poland). The picture is further complicated by the fact that, while prices are expected to fulfil several functions everywhere, the priorities among these various aims are not always unambigously ranked—either in public statements or in practice. A paragraph quoted below from the latest edition of the programme of the Communist Party of the Soviet Union might serve as an example:

"It is necessary to perfect price formation in order to ensure that prices reflect more precisely the amount of socially necessary costs, as well as the quality of the goods and products concerned. Prices should stimulate scientific-technological progress, resource savings, improvements in technical, economic and utility parameters, the introduction of new, modern products and a general increase in efficiency."[363]

A notable feature in the academic discussion on intensification, which is presently in the centre of policy debates in eastern Europe and in the Soviet Union, is that some leading economists give high priority to the issue of relative prices, even ranking them above economic indicators and incentives.[364] In the new Hungarian reform package, adopted in April 1984, it was also emphasized that relative prices, based on world market relationships, should not be distorted by the influence of any other economic regulator.[365] But, on the whole, improvements in the system of price formation does not seem to be generally accepted as the main avenue for perfecting the planning and management system.

Comprehensive changes in relative producer prices are often introduced at the beginning of a planning period. In the past decade, this seems to have become even more frequent. Important modifications in prices were introduced in Bulgaria (1980, 1985), in the German Democratic Republic (1976, 1978-1979), in Hungary (1980), in Poland (1982), in the Soviet Union (1982, 1983) and in Czechoslovakia (1984). A common feature of these changes has been that the wholesale prices of raw materials (particularly fuels) were raised nearly everywhere, both in absolute and relative terms. This was clearly a step, perhaps belated in some countries, toward adjusting domestic price proportions to the realities of the first half of the 1980s.

The following discussion first briefly reviews derived (implicit) domestic price indices on the basis of the main sectoral and demand components of the usual NMP aggregates (NMP-produced, NMP-used). Next, changes in import price relatives are shown to illustrate the developments on markets, outside the individual countries. Finally, changes in consumer prices as a whole, and of some of their main constitutents, are analysed.

(i) Implicit NMP price indices

The price indices used to deflate the main components of output (net material product) are not published in any country under review. The available time series, for output in both current and constant prices have therefore been used to reconstruct these indices.[366] Obviously, this approach can yield only partial and imprecise results; the findings should therefore be interpreted with due care.

Not all countries reviewed even present national balance statistics in both current and constant prices. And even if they did, numerous difficulties would remain. Quite apart from insoluble difficulties, confronting time series at current and constant prices over a longer time span is always hazardous, since it may mix up changes in prices and changes in data registration methodology. In fact, only Czechoslovakia (for 1975), Hungary (for 1983) and Poland (for

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[362] Relative price changes in investment works covering the 1970-1981 period were analysed at length in United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, 1983, pp. 178-179.

[363] *Pravda*, 26 October 1985.

[364] The Nobel Prize-winning Soviet economist, L. V. Kantorovich, writes: "Flexible redistribution of resources, successful economic manoeuvre and the use of economic methods (prices, indicators, incentives) can give a substantial positive impetus to production and consumption if they are conceived correctly, in time and scientifically well established". L. V. Kantorovich: "Nauchno-technicheskii progress-ekonomicheskie problemy" (Scientific-technical development-economic problems), *EKO*, 1985, No. 1, p. 5.

[365] See the address of B. Szikszai, Chairman of the National Material and Price Board, to a nationwide conference on the new reform initiatives. *Gazdasági fejlődésünk és a gazdaságirányitás továbbfejlesztése* (Our economic development and the further development of the economic control and management system), Kossuth Könyvkiadó, Budapest, 1984, p. 56.

[366] A recent Bulgarian study used the same methods. G. Miniasian: "Makroikonomicheski vozproizvodstveny strukturi" (Macro-economic structure of reproduction), *Ikonomicheska misl*, vol. XXX, No. 9, 1985.

1975) reported two full sets of figures for a year in which methodological changes were introduced.[367]

Furthermore, an important feature in the price statistics of most of the countries under scrutiny should be mentioned here. Prices are often derived as implicit deflators from the output data at "comparable prices" used in physical planning. Such deflators reveal only the combined effect of a number of individually approved price changes on aggregate output, sales or other value series. All other changes in value series are considered, in practice, as measures of change in volumes—i.e., they are assumed to reflect changes in quality. (In reality, however, some of these volume changes may simply capture excessive and wasteful production expenditures.) This is one reason why, in Soviet statistics, for example, the term "comparable prices" does not necessarily mean "constant prices of a given year".[368]

In principle, changes in relative prices can fully offset each other's effect, therefore in themselves they do not necessarily endanger the stability of the overall price level. As the last column in table 3.9.1 shows, in the Soviet Union, Bulgaria and Czechoslovakia these movements have indeed almost cancelled each other out. In Poland, the inflationary process went out of control in 1981-1982, but developments in price relatives were no different from the experience of other countries. *Agricultural* prices outpaced *industrial* prices everywhere, irrespective of the pace of the overall price rise. In Hungary, this process was rather smooth, while in Bulgaria and Romania, the changes were introduced at intervals.[369] Similarly, *construction* prices moved ahead of the industrial prices in all countries concerned (see chart 3.9.1).

Assembling comparable time series on the *utilization* of NMP proved to be even more cumbersome. Complete results were obtained only for three countries: Czechoslovakia, Hungary and Poland (see chart 3.9.2).

In these countries, the estimated price rises in *social consumption* are generally somewhat lower than for *personal consumption*—understandably, since it is easier for the price-setting authorities to control them. *Investment* prices (used to deflate net fixed capital formation expenditures at current prices) seem to have dropped sharply even in absolute terms in Czechoslovakia between 1973-1979. Subsequently, price rises brought the index back to slightly above the 1973 level. In Hungary, investment prices rose at a steady rate over the whole period, while in Poland the year 1982 brought a big jump in the prices of this sector, probably due to a similar jump in the prices of the construction sector.

The lacunae in the published national aggregates in Soviet statistics permit analysis of developments only for the 1973-1984 period. Nor has it proved possible to separate out net fixed capital formation from changes in stocks within total net accumulation. In the *accumulation* process prices seem to have been practically unchanged until 1980, when an upward turn is clearly discernible. Interestingly, this time it cannot be explained by a rise in construction prices.

(ii) Changes in import prices

Though it is well known that the turbulence of relative world market prices over the period reviewed did not leave the centrally planned economies unaffected, there is little direct information available about the size and incidence of such effects.

In principle, CMEA prices have always been linked to world prices. Following post-1973 developments, they are now based on a sliding average of the previous five years. However, for some internationally-traded staple goods (non-fuels, agricultural goods) it has recently been empirically shown that actual CMEA transactions prices are not always directly linked to the development of world prices.[370] Moreover, a noticeable development is the growing share of trade among the socialist countries which, in fact, is transacted directly in convertible currencies on the basis of prevailing world market prices (all trade with Yugoslavia and China, intra-CMEA convertible currency trade).

As a first step in studying these developments, an approximation of trade volume changes[371] was obtained by generating aggregate price deflators, using the following procedure.[372]

The exercise, based on regularly published Hungarian, Polish and some international price indices, assumes similar price trends in the actual transactions throughout the east European region. As primary data, the procedure generates a standard commodity structure of foreign trade by main directions—socialist and non-socialist markets—for the Soviet Union and six east European countries. The procedure is based on national and CMEA publications or on trade partner statistics. As a second step, the price indices for individual countries on these markets, measured in transferable roubles and US dollars respectively, are reweighted with the national commodity structure weights.[373] Though the underlying assumption of uniform foreign trade price developments is not entirely arbitrary, some reservations are in order. For example, there is much evidence that individual contract prices on the CMEA market are far from uniform among the countries, even for very specific categories of traded goods.[374]

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[367] At a lower level of aggregation, implicit price deflators, in some cases, exhibit a degree of volatility in a particular sector which can only be explained by factors such as changes in statistical recording. The net output of the agricultural sector (Romania 1983, see chart 3.9.1) and the net output of the trade sector (Bulgaria 1971: −47 per cent, 1979: −19 per cent) are typical examples. It is likely that certain statistical inconsistencies in the underlying data are also reflected in these results, as the statistical offices attribute some of the valuation discrepancies to the changes in these sectors.

[368] See, *Metodicheskie ukazaniya k sostavleniyu gosudarstvennogo plana razvitiya narodnogo khozyaistva SSR*, Moscow, 1980, pp. 182-183. A detailed analysis of the issue is to be found in F. I. Kushnirsky: "Methodological aspects in building Soviet price indices", *Soviet Studies*, vol. XXXVII, No. 4, October 1985.

[369] In the Soviet Union new agricultural procurement prices were introduced from 1 January 1983. According to Mr. N. Glushkov, then Chairman of the State Committee of the USSR for Prices, these new prices were expected to remain in force without any serious modification throughout the 1986-1990 period. N. Glushkov: "Planovoe tsenoobrazovanie: puty sovershenstvovaniya" (Planned price formation—the ways of perfectioning), *Kommunist*, No. 3, February 1985, p. 45.

[370] J. M. van Brabant: "World Prices and Price-Formation in Intra-CMEA Trade: Selected Empirical Evidence", *Osteuropa Wirtschaft*, vol. 30, No. 3, September 1985.

[371] Used in other parts of this publication, see e.g., Appendix table B.15.

[372] In fact, in this context it is more precise to talk about *unit value* indices, instead of implicit price indices, since, for foreign trade data, there is a greater probability than for national output and domestic utilization data, that the product-mix changed considerably within the time period under review.

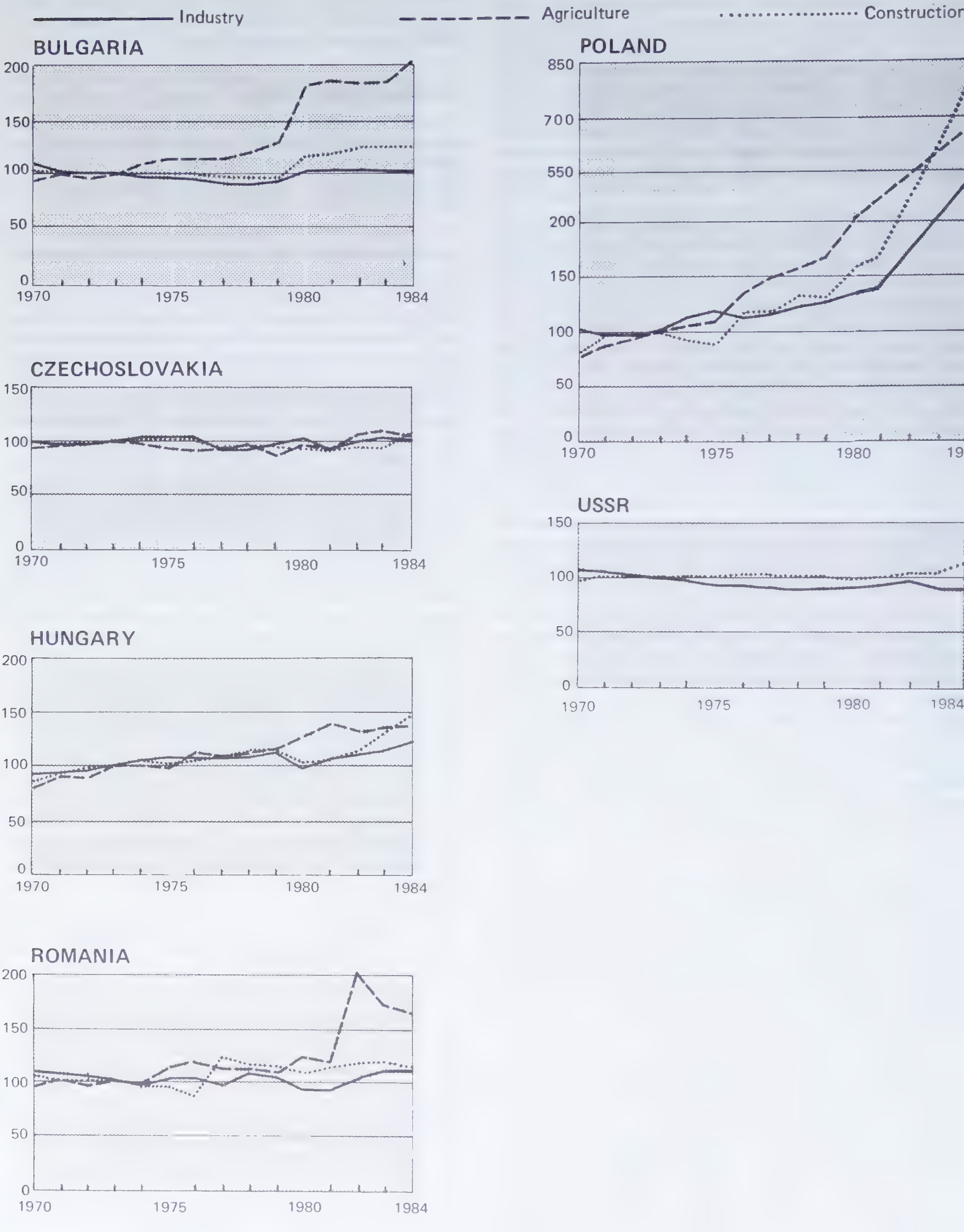
[373] A more detailed description of the method is given in Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985, chapter 4.

[374] For the contracting parties, as a Hungarian author explains it, "the price is only one element in a process of a global bilateral bargaining over a vast range of goods ... therefore it is not really decisive". L. Csaba, *Kelet-Európa a világgazdaságban* (Eastern Europe in the World Economy), Közgazdasági és Jogi Könyvkiadó, Budapest, 1984, p. 87.

CHART 3.9.1

Sectoral implicit price deflator indices

(1973 = 100)

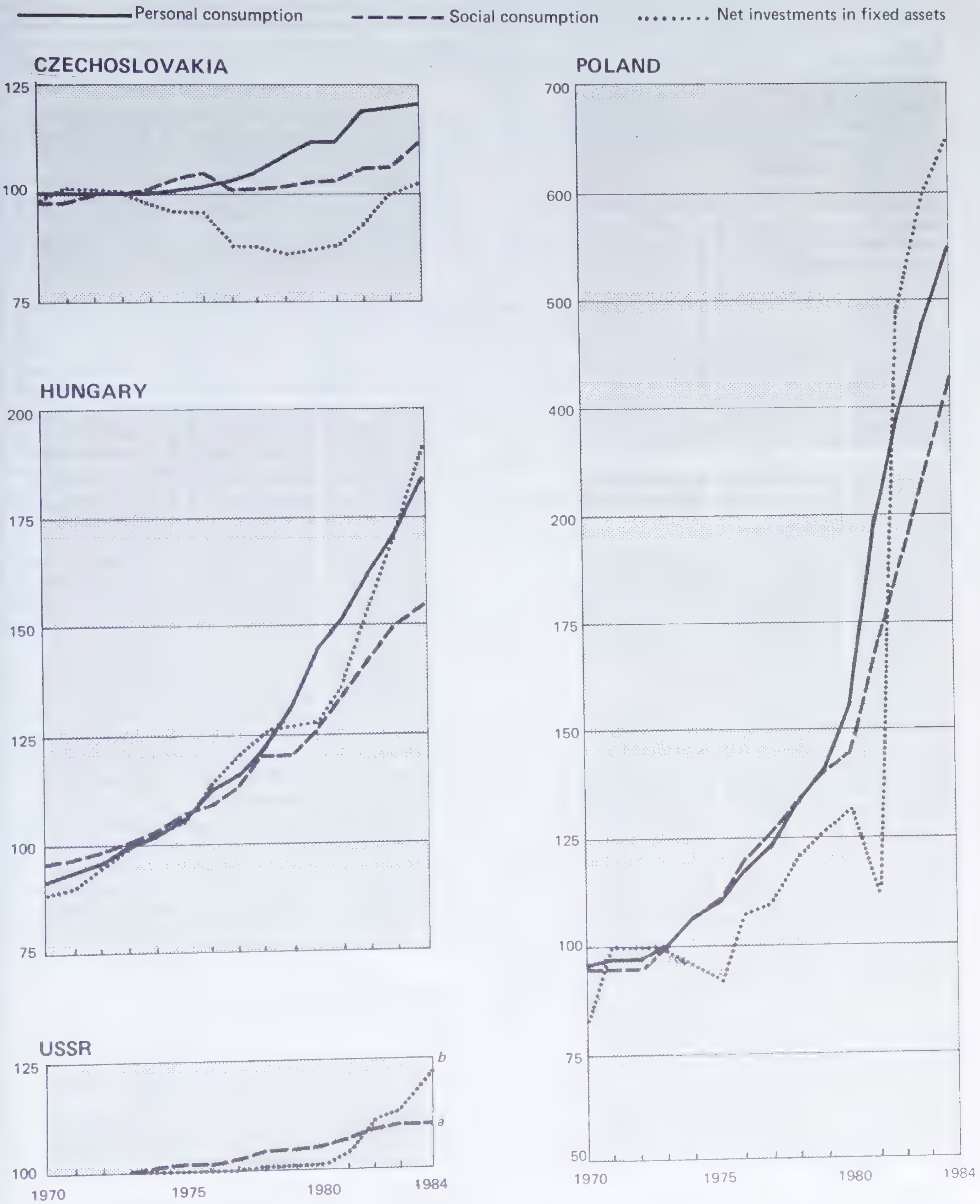


Source: National statistics.

CHART 3.9.2

Implicit price deflator indices of final NMP utilization

(1973 = 100)



Source: National statistics.

a Total consumption.

b Net accumulation.

TABLE 3.9.1

Price changes, 1971-1984

(Annual percentage change or indices)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1984 1973 = 100
Bulgaria															
NMP deflator [a]	−7.5	0.3	—	0.2	0.2	−0.4	−3.8	−0.1	1.4	9.8	1.9	—	−0.2	1.4	110.3
Retail price index [bc]	−0.1	—	0.2	0.5	0.4	0.2	0.4	1.6	4.6	13.9	0.5	0.3	1.4	0.7	126.4
Czechoslovakia															
NMP deflator [d]	−0.8	0.2	—	1.0	0.7	0.5	−3.0	2.2	2.8	2.4	−1.2	5.6	1.7	4.4	118.2
Cost of living index [e]	−0.4	−0.4	0.2	0.4	0.6	0.9	1.4	1.5	3.0	3.4	0.9	4.7	1.1	0.9	120.3
German Democratic Republic															
NMP deflator	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Retail price index [f]	0.1	−0.7	−0.6	−0.4	—	—	−0.1	−0.1	0.3	0.4	0.2	—	—	—	100.3
Hungary															
NMP deflator [d]	1.4	3.0	3.7	3.0	3.9	4.0	4.5	4.2	7.3	5.2	6.7	8.4	7.5	7.9	183.3
Consumer price index [g]	2.0	2.8	3.3	1.8	3.8	5.0	3.9	4.6	8.9	9.1	4.6	6.9	7.3	8.3	186.3
Poland															
NMP deflator [d]	2.3	0.2	2.6	4.1	0.9	9.2	5.2	7.4	5.6	9.3	20.7	136.2	17.8	15.8	581.6
Cost of living index [e]	−0.2	—	2.6	6.8	3.0	4.7	4.9	8.7	6.7	9.1	24.4	101.5	23.0	15.6	544.6
Romania															
NMP deflator [a]	−0.6	−0.8	—	0.2	1.2	−0.4	−1.1	0.2	1.3	−1.1	2.1	15.4	1.2	—	119.6
Retail price index [h]	0.6	—	0.7	1.1	0.2	0.7	0.5	1.6	2.0	2.1	2.0	17.0 [j]	5.5 [j]	0.9 [j]	137.6
Soviet Union															
NMP deflator [d]	−0.8 [a]	−1.0 [a]	−1.2 [a]	−0.1	0.1	0.5	0.8	0.8	0.9	1.0	2.0	3.5	1.0	1.5	112.1
Retail price index [b]	−0.1	−0.2	—	0.1	0.1	—	0.3	0.7	1.3 [i]	1.0 [i]	1.0 [i]	3.8 [i]	— [i]	-0.9 [i]	107 [i]

Source: ECE secretariat estimates based on national statistics.

Note: NMP deflators are estimated from published national accounts at constant and at current prices. Alternative indices for changes in its cost of living are calculated from national statistics.

[a] Estimates based on NMP produced.

[b] Sales by state-owned retail outlets only.

[c] Excluding services.

[d] Estimates based on NMP used for domestic consumption and accumulation.

[e] Index computed for workers and employees in the socialist sector.

[f] Including fees and charges of various kinds.

[g] Including the costs of building or acquiring new dwellings.

[h] Sales of the socialist sector only.

[i] Based on rounded published indices (1970 = 100).

[j] IMF, *International Financial Statistics*, December 1985.

The emphasis here is again focused on the size of broad commodity group price changes relative to those for total imports, since the impact of overall shifts in foreign trade price levels can easily be neutralized, if intended, through across-the-board adjustments in exchange rates or foreign trade multipliers.[375]

The results of the simulation exercise, presented in chart 3.9.3, give quantitative evidence for some otherwise often vaguely formulated statements. The price rise of *fuels* is paramount for all countries. Between 1970 and 1984 imported fuels and energy (including petroleum products) became 2-3 times more expensive on both international markets. In the same period *other production inputs* have become less expensive on the socialist markets for most of the countries concerned. In the west, however, this price set moved hand in hand with the general price trend. *Machinery* prices plunged by some 30-40 per cent, in relative terms, on the CMEA market. This phenomenon, as well as the similar price behaviour of *industrial consumer goods*, clearly shows the "softness" of these items. *Food* also has been "devalued", despite the efforts of exporter countries to keep up with the overall changes in prices. In the socialist markets, the fall in food prices was 10-20 per cent, somewhat less than the decline of 25-30 per cent experienced on western markets. This is in line with world market price movements. However, it is worthwhile to recall that *domestic* agricultural prices have clearly been rising relative to other prices in nearly all the countries concerned.

Among the seven countries, Romania and the Soviet Union seem to have experienced a different price history than the other five nations. This reflects the fact that the latter countries are *all* importers of Soviet fuels, supplying in return other goods in the framework of long-term agreements. Romania, however, is the only CMEA member that regularly buys large amounts of oil at current world market prices.

(iii) Changes in consumer prices

Movements in relative consumer prices are of particular importance in all centrally planned economies, as households—contrary to the behaviour of large nationalized production units—react elastically even to small price changes.[376]

Since 1980, within the framework of an overall effort to service international debts (which often requires substantial transfers of goods from domestic markets to export), nearly all of the seven countries under review have been forced to ease control over consumer prices in order to maintain equilibrium on the market. Only the German Democratic Republic succeeded in keeping the retail price level practically unchanged. In 1984, the Soviet Union, surprisingly, reported a gentle drop in the retail price index (see table 3.9.1). [377] It is less clear, however, to what extent the regular or *ad hoc* price rises which have occurred modify the relative prices in a longer term perspective.

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[375] Accounting exchange rates are applied in some countries to convert foreign currencies into the national valuta currency units in which foreign trade values are recorded.

[376] The Soviet author already quoted, L. V. Kantorovich, pointed out that a 10-20 per cent rise in Soviet air fares was enough to halt the increase in the number of air passengers between 1975 and 1980, and to induce travellers to use other means of transport; *op. cit.*, p. 5.

A thorough comparison of consumer price changes is made difficult by the fact that each country has its own specific, and not always fully documented, approach to measure changes in cost of living. As the extensive list of footnotes in table 3.9.1 shows, published consumer price indices have a rather different coverage. Bulgaria, the German Democratic Republic, Romania and the Soviet Union report retail price indices only, while the other countries also have alternative series (see table 3.9.2).

Beyond the differentiation in definitions, doubts also remain concerning the extent to which national statistical offices adhere to the most reliable price survey methods. The difficulties in this regard have already been briefly referred to above. In those countries where only retail price indices are calculated, adherence to the "*comparable price* principle" may produce a turnover deflator, which is numerically different from price changes, as perceived by households. [378]

As shown in table 3.9.1, consumer price indices, or their national surrogates, have seemingly moved roughly parallel with NMP deflators. [379] The difficulty arises, first, from the fact that the net material product by definition excludes state-provided services originating in the non-material sphere. Second, it also excludes a non-negligible—and in fact growing—amount of privately produced services. Such price changes are not incorporated in the deflator either. This practice is in full accordance with the philosophy of the Material Product System, where the output of these services (legal or illegal) is regarded as a secondary redistribution of the net material product.

The results presented in table 3.9.3 show that in relative terms *food prices* slightly outpaced overall price changes practically everywhere. This finding is also in line with the changes in price relatives between different production aggregates noted earlier. Czechoslovakia is the only country where food became relatively cheaper than *industrial goods*. This is somewhat surprising, considering the high level of development of the consumer goods industries in that country. It may have reflected, however, slow progress in reducing unit costs in these industries.

On the other hand, the data in table 3.9.3 seem to indicate that the effects of *ad hoc* corrections in food prices have a tendency to evaporate as time goes by. Even in Poland, where food prices went up at an annual rate of 140 per cent in 1982, the rapid overall inflation has already begun to push down relative food prices. [380]

In this context, changes in *meat prices* deserve special attention (table 3.9.4), because of the particular importance attached to them by the urban population of all seven countries concerned. Here the tendency just described for food is even more apparent. For the average east European consumer, neither the price of food in general, nor that of meat in particular changed significantly in relative terms over the period. In the Soviet Union, meat prices were reported to have remained the same between 1962 and the end of 1984. [381]

Taking into account the various considerations and the empirical findings presented so far, it seems that all the centrally planned economies are making efforts to use changes in relative prices as an instrument of economic management. However, the observable movements are often *not very large or very robust*, since in some instances there is a tendency to revert to the price relations prevailing in earlier years.

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[377] It is rather unfortunate that along with this development, Romania completely stopped providing price statistics for national and some international publications (CMEA and ILO yearbooks), while the USSR has abandoned the generally followed practice and does not publish price indices with one decimal accuracy anymore. In annual growth rate comparisons, this may distort the picture because of the increased significance of roundings.

The CMEA secretariat started to publish consumer price indices of the member countries as late as 1979. No methodological details are attached. An up-to-date description of the surveying techniques applied in the seven countries is to be found in an ILO publication, *Statistical Sources and Methods*, vol. 1, Consumer Price Indices, International Labour Office, Geneva, 1984, mostly based on national returns.

[378] With reference to the Soviet Union, the ILO confirms that the official index is "taken from the price list fixed by the State for the observance of all trading organizations", *op. cit.*, p. 269.

[379] The simple correlation coefficient (r) ranges from 0.73 (Czechoslovakia) to 0.99 (Poland).

[380] Since most of the countries, as well as the CMEA secretariat, report price indices only for two identical sub-categories (food and non-food items), it would be superfluous to tabulate the complementary erosion of non-food prices.

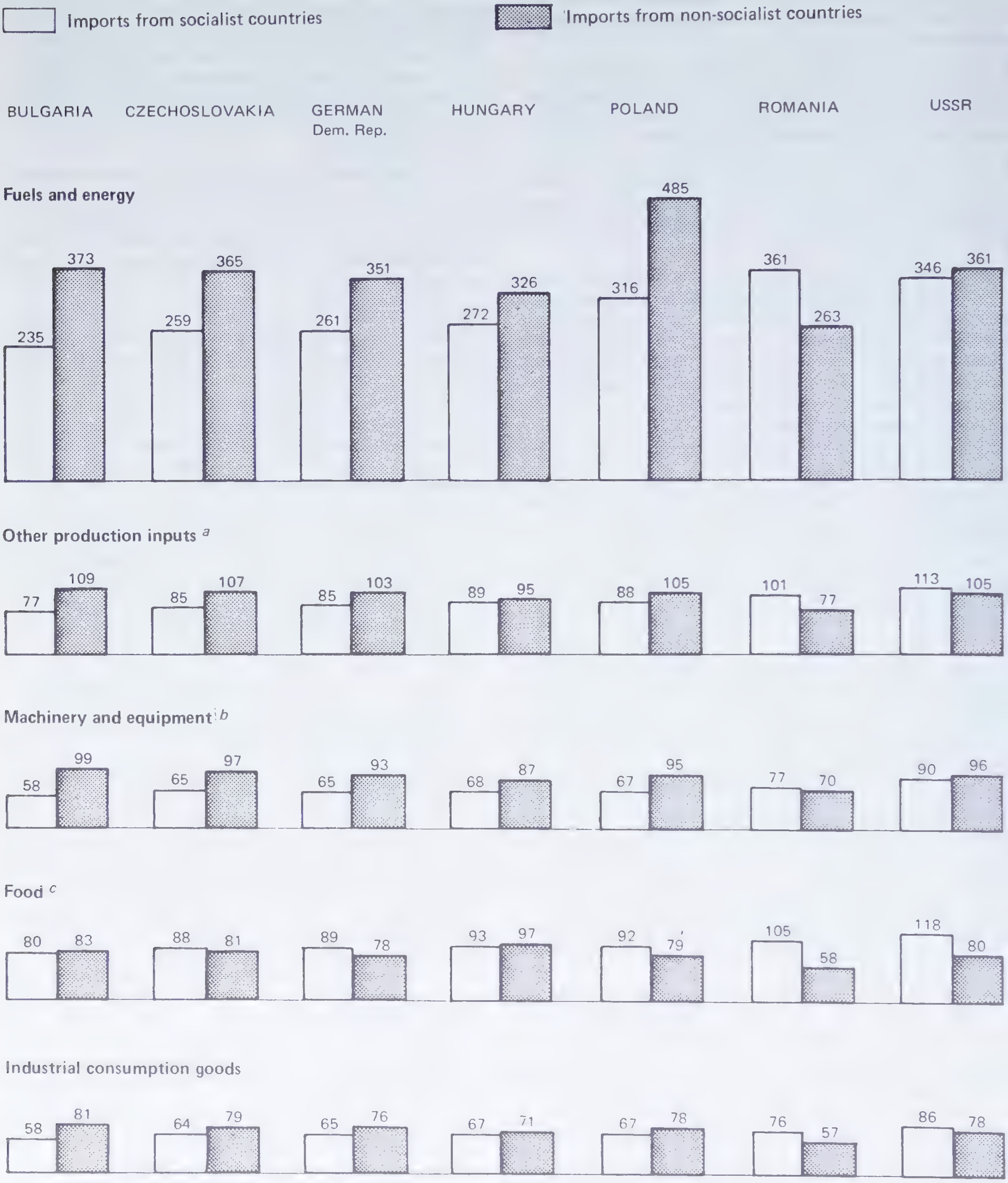
For the sake of comparison an identical calculation was carried out to show the development of food and non-food prices using the consumer price data of 13 west European countries. Apparently, there is no general trend in relative price developments. In the four Nordic countries, food prices hit a plateau in the second half of the 1970s, with an index of 113 (Norway, 1977). Subsequently they turned downward. On the whole, in 1984 the index still stood somewhat above its starting level. In Austria, Belgium, the Federal Republic of Germany, Italy and the Netherlands, food prices fell practically without interruption. In the United Kingdom the index reached 118 in 1977, but later on plunged back virtually to the level of the early 1970s.

[381] N. Gluskhov, *op. cit.*, p. 47.

CHART 3.9.3

Indices of relative changes in import prices, 1970–1984

(Changes in total import prices = 100)



Source: ECE secretariat estimates, based on national and international sources.

a Raw materials other than fuels and semi-manufactures.
b Including means of transport.
c Foodstuffs and raw materials for production.

Table 3.9.2

Alternative cost of living indices in 1984

(1973 = 100)

	Bulgaria	*Czecho-slovakia*	*German Dem. Rep.*	*Hungary*	*Poland*	*Romania*	*Soviet Union*
Reported retail price index [a]	126.4	122.1	100.3	190.9 [b]	532.5	137.6 [c]	107
Reported cost of living index	..	120.3	..	186.3 [d]	544.6	..	..
Estimated implicit price index for personal consumption	..	121.4	..	184.2	548.1	..	..
Estimated implicit price index for social consumption	..	111.8	..	154.5	436.0	..	..
Estimated implicit price index for total consumption	..	118.3	..	180.2	530.9	..	109.6

Source: National statistics.

[a] For details, see also footnotes to table 3.9.1.

[b] Excluding services.

[c] IMF, *International Financial Statistics*, December 1985.

[d] Consumer price index.

Table 3.9.3

Indices of relative changes in food prices

(Reported overall consumer price index = 100) [a]

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland* [b]	*Romania*	*Soviet Union*
1970	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971	100.3	100.3	101.6	99.6	102.7	100.9	100.4
1972	100.3	100.5	101.6	100.0	102.6	101.5	101.6
1973	101.0	100.4	101.2	101.8	101.1	102.0	100.8
1974	101.6	100.2	101.2	101.2	100.5	102.6	101.2
1975	101.8	99.5	102.1	99.5	98.1	102.8	101.2
1976	102.0	99.7	102.7	100.2	98.0	102.7	101.2
1977	101.9	99.4	103.0	103.0	99.1	102.5	101.0
1978	101.6	99.4	103.0	103.0	99.1	102.5	101.0
1979	103.2	97.4	102.6	105.5	99.8	101.3	100
1980	112.9	94.5	102.2	104.4	103.2	101.0	100
1981	112.7	93.7	102.0	103.0	101.6	100.7	101
1982	113.1	98.6	102.0	104.2	119.2	115.2	101
1983	114.9	98.1	102.0	102.5	108.4	113.2	102
1984	115.7	98.0	102.0	103.3	109.9	113.4	103

Source: National statistics; for Romania (1983-1984) national sources

[a] For national definitions, see table 3.9.1

[b] Excluding alcoholic beverages

TABLE 3.9.4

Indices of relative changes in meat prices [a]
(Reported overall consumer price index = 100) [b]

	Bulgaria	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Soviet Union*
1970	100.0	100.0	100.0	100.0	100.0	100.0
1971	..	100.2	..	98.0	..	..
1972	..	100.9	..	95.3	..	..
1973	98.5	100.8	..	92.3	..	..
1974	99.6	100.3	..	90.6	..	..
1975	99.2	100.0	102.0	87.3	88.0	100.0
1976	99.0	99.1	..	100.2	..	..
1977	98.6	97.5	..	115.5	80.1	..
1978	97.5	96.3	..	110.4	77.9	..
1979	99.9	93.5	..	114.9	82.0	..
1980	114.7	90.4	101.5	121.7	85.6	99
1981	114.2	89.6	..	124.7	70.9	98
1982	113.8	109.5	101.3	123.9	120.2	94
1983	121.0	110.3	101.3	115.5	104.3	95
1984	128.5	109.3	101.3	127.7	105.2	96

Source: National statistics.

[a] Meat sold in retail outlets of the socialist sector. Bulgaria, German Democratic Republic, Poland: including meat products; Hungary: raw meat and offal only. Soviet Union: meat and poultry.

[b] National definitions, see table 3.9.1.

Chapter 4

EAST-WEST ECONOMIC RELATIONS

4.1 WORLD TRADE AND PAYMENTS

The volume of world trade continued to grow in 1985, but at a slower pace. Falling prices adversely affected the exports of primary products. The volume of funds raised in the international financial market rose, but syndicated loans declined again. Prospects for an eventual solution to the international debt problem received a setback in 1985. On balance, faster growth in developed market economies should favourably affect debtor countries.

(i) Faltering recovery in world trade

After a rebound in 1984, the volume of world trade continued to expand at a moderate rate of about 3-3.5 per cent in 1985, more slowly than was expected a year ago.[382] Contrary to developments in the previous year, the advance was rather unevenly distributed in nearly all respects (table 4.1.1 and Appendix table C.2). By the second half of the year, the developed market economies' trade expansion had lost much of its momentum, whereas the European centrally planned economies were only about to recover from the winter which had severely affected their output and exports alike.

In the year as a whole, the *developed market economies* were able to maintain trade growth, albeit at a much reduced rate. The volume of exports increased 5-6 per cent both in western Europe and in Japan, but remained virtually unchanged in the United States. Sluggish domestic demand in the major west European countries led to import growth similar to that of exports. By contrast, imports into North America once again grew substantially faster than exports, though the difference between the two rates has been narrowing (from 12 to 5 percentage points) if compared with 1984.

Mid-year forecasts expected exports and imports from and to the *developing market economies* to remain roughly at the 1984 level.[383] In the light of changes in raw material prices and due to the general slowdown of output growth in the developed market economies, these estimates may have been slightly optimistic. Preliminary figures about trade developments in Latin America, for example, indicate that both exports and imports contracted by 1-2 per cent in real terms. The poor results of the oil-exporting countries of this continent are likely to reflect a general tendency valid also for other oil exporting countries of Africa and Asia.[384]

TABLE 4.1.1

World trade: recent changes in volumes and unit values, 1983-1985
(In US dollar terms)
(Percentage changes from the previous year)

	1983	*1984*	*1985*
Trade volumes			
Exports			
Developed market economies	2.4	9.4	4.8
Developing market economies	2.3	7.8	−0.5 [a]
European centrally planned economies	5.7	6.0	−0.5
Total above	2.6	8.6	2.7
Imports			
Developed market economies	4.5	10.8	5.6
Developing market economies	−1.9	2.7	0.4 [a]
European centrally planned economies	3.7	5.0	4.8
Total above	2.7	8.2	4.2
Unit values			
Exports			
Developed market economies	−3.4	−3.4	−3.7
Developing market economies	−7.9	−0.3	−4.2 [b]
European centrally planned economies	1.2	1.0	1.0
Total above	−4.5	−2.1	..
Imports			
Developed market economies	−5.5	−2.9	−4.7
Developing market economies	−4.1	−1.0	−2.2 [b]
European centrally planned economies	1.3	2.3	0.4
Total above	−4.6	−2.0	..
Terms of trade			
Developed market economies	2.2	−0.5	1.2
Developing market economies	−4.0	0.7	−2.0 [b]
European centrally planned economies	−0.1	−1.4	0.6

Sources and notes: As for Appendix table C.2. Data for 1985 are ECE secretariat estimates based on national and international sources

[a] IMF estimates for the full year, based on information available in July 1985, in *World Economic Outlook*, October 1985.

[b] January-June

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[382] At the beginning of the year, growth in the 4-6 per cent range had been expected. See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, table 5.1.7.

[383] See IMF, *World Economic Outlook*, 6 October 1985.

[384] Total volume of exports from the five oil exporting countries of the region was more than 6 per cent below the 1984 level. See United Nations Economic Commission for Latin America, *Preliminary Overview of the Latin American Economy 1985*, December 1985.

In real terms, exports from the European *centrally planned economies* seem to have turned down in 1985, the first time since 1960. There was a drop in exports of the Soviet Union and only small export growth in the six east European countries. Imports into this group, on the other hand, grew at almost 5 per cent.

In the developed market economies, *manufactures* exports outpaced the growth of total trade in 1984. In that year Japan, for the first time, became the world's largest exporter of manufactured goods, overtaking the Federal Republic of Germany and the United States. Judging by data for the first three quarters, in 1985 manufactures exports of the developed market economies seem to have decelerated to a rate similar to that of total exports.

International *prices of manufactures* were fairly stable in the 1983-1985 period if the effects of the change in the US dollar exchange rate is eliminated by measuring prices in SDR terms (table 4.1.2). This can be regarded both as a cause and a consequence of the prevailing disinflationary tendencies in these economies.

Commodity prices fell at a rapid rate in the first three quarters of 1985. Expressed in terms of Special Drawing Rights (SDRs), this resulted in a 5 per cent price reduction on the primary commodity imports of the developed market economies, but it meant a 9 per cent loss in average export prices for the developing countries (table 4.1.2). In the fourth quarter, prices were reported to have begun edging up, largely due to the rebound of food prices, mostly attributable to the upsurge of the price of coffee.[385] In SDR terms, the aggregate price index of fuels and related materials exhibited a slight increase in the January-September period of 1985.

TABLE 4.1.2

Changes in international trade prices in US dollars and in SDRs [a] by major commodity groups, 1982-1985
(Percentage change from the previous year)

	1982	1983	1984	1985 Jan.-Sept.
Manufactures [b]				
In US dollar terms	−2	−4	−3	−3
In terms of SDRs	4	−1	1	—
Mineral fuels and related materials [c]				
In US dollar terms	−7	−12	—	−3
In terms of SDRs	1	−9	3	1
Non-oil commodities [d]				
In US dollar terms	−15	5	1	−13
In terms of SDRs	−9	9	5	−9
Primary commodities [c]				
In US dollar terms	−7	−4	−1	−9
In terms of SDRs	−1	—	3	−5

Source: United Nations, *Monthly Bulletin of Statistics*, December 1985 and UNCTAD, *Monthly Commodity Price Bulletin*, vol. VI, No. 1, January 1986.

[a] Special Drawing Rights as defined by the IMF.

[b] Export unit value index for manufactures of developed market economies.

[c] Unit value of the developed market economies' imports.

[d] UNCTAD combined index of market prices of principal *non-oil* commodity exports of developing countries.

Dollar-denominated contract prices for *crude oil* remained practically unchanged throughout the year, though spot prices followed their vacillating, but clearly downward, trend for the fifth consecutive year; overall, prices were down slightly.

The sharpness of the fall of the spot price of oil in Januar and February 1986 came as a surprise. Before the OPE meeting decided "to secure and defend for OPEC a fair shar in the world oil market consistent with the necessary income fo

meeting decided "to secure and defend for OPEC a fair share in th world oil market consistent with the necessary income fo

Member Countries' development",[387] traders interpreted th statement as an open-ended commitment to lower prices. Th commitment was bound to lead to a price war, as falling pric induced producers to increase sales volumes to reach targete income levels.

Meanwhile, conventionally registered oil prices have becom increasingly less meaningful indicators of the underlying pric trend. The share of crude sold both at official *contract prices* c at reported *spot prices* has been diminishing, as the volume c crude sold on a "product realization" basis (netback sales, pro cessing deals, etc.) increased.[388]

In the last quarter of 1985, OPEC members increased thei output by 17 per cent. The largest exporter, Saudi Arabia raised output to 4.2 million barrels per day (mbd) in the Sep tember-December period, as against 2.4 mbd reported in th previous quarter.[389] At the end of December a barrel of crud on the spot markets brought $3-4 less than a month before. B the end of January, as the market convinced itself that Sauc Arabia was pumping oil at a rate of around or above 5 mbc prices fell by a further $8.[390] In February they were alread below $15.

The causes of the unexpected price developments appear t lie on the supply rather than on the demand side. Deman stagnated and this has inevitably led to increased competitio among sellers. Since operating costs were still very much belo the prevailing market prices,[391] the temptation to give pric concessions was hard to avoid, in particular if warfare, heav debt burden or earlier commitments to ambitious developmen plans kept the exporting countries' income requirements high.

In 1985, the export and import *unit values* of the develope and developing market economies continued to fall in dolla terms for the fourth consecutive year. In the European centrall planned economies, by contrast, unit values in total trade regis tered a small rise. This stems from the fact that aggregate uni value changes in these countries' trade reflect an average o movements in the declining current world market prices and o changes in (still-rising) intra-CMEA prices which adjust with lag to the former. The *terms of trade* changes worked agains the developing countries in 1985, while the two other group benefited slightly from the difference between the export an import price changes.

The combined effect of eroding export prices and the decel eration of imports into the developed market economies, and th United States in particular, had a rather unfavourable impac

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[385] UNCTAD, *Monthly Commodity Price Bulletin*, vol. VI, January 1986; *The Economist*, 8 February 1986.

[386] *Petroleum Times Price Report*, 1 December 1985, p.4. At the en of November 1985, the price for North Sea oil (Brent) was $30.20 pe barrel, in contrast to the average January 1985 price of $27.05 pe barrel.

[387] *OPEC Bulletin*, vol. XVI, No. 10, December/January 1986, p.

[388] *International Energy Agency Oil Market Report*, February 1986

[389] At annual level, however, the OPEC countries sold 7 per cent les oil than in 1984. Total world supply also diminished in 1985, by an est mated 1 per cent. IEA, *op. cit.*

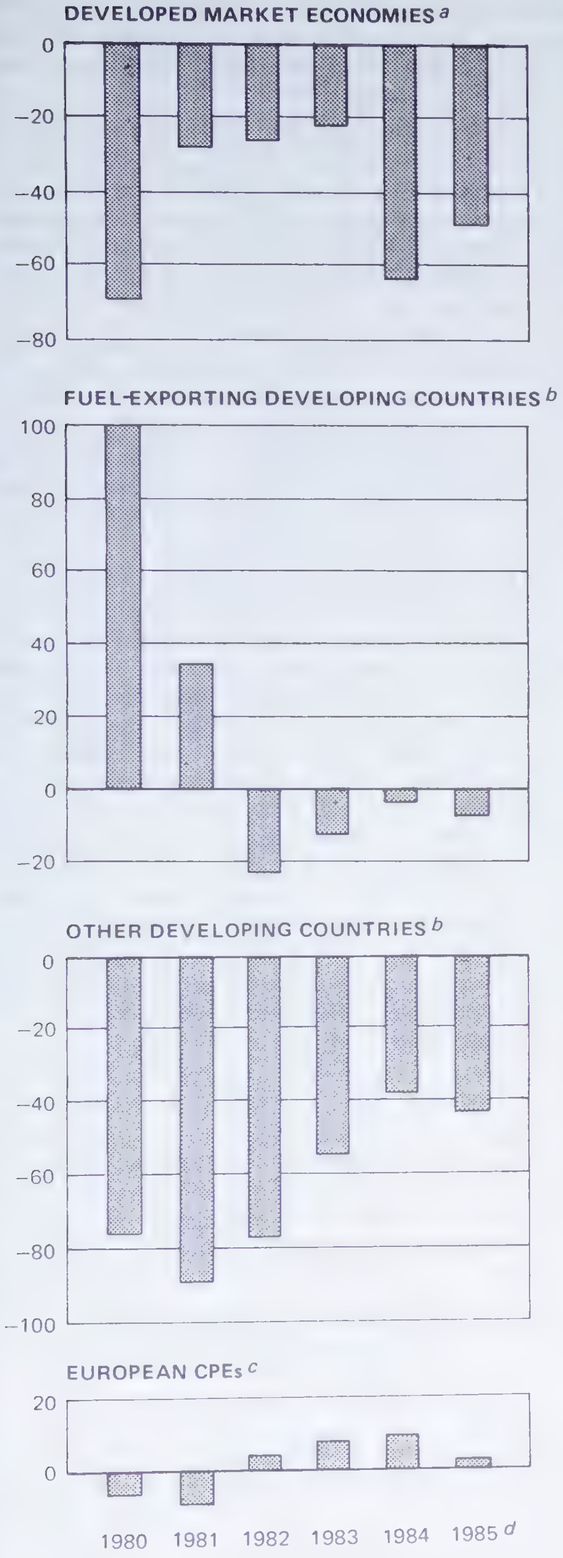
[390] *Financial Times*, 25 January 1986; *Neue Zürcher Zeitung*, 2 January 1986. Later the true figure was estimated to have been aroun 4.3 mbd. See IEA, *op. cit.*

[391] Production in the United Kingdom field of the North Sea wa reported to be still profitable at above $5 per barrel. *Financial Time* 25 January 1986, p. 7.

CHART 4.1.1

Balance of payments on current account, 1980–1985

(Billion US dollars)



Source : ECE secretariat estimates, based on information published in OECD, *Economic Outlook (38)*, December 1985; IMF, *World Economic Outlook* (Revised), October 1985, and national sources.

a OECD countries.
b As defined by the IMF.
c With the market economies.
d Forecast for the end of the year.

on the performance of many developing countries. Besides raw material exporters, even those regions suffered which usually showed rapid growth. Asian *newly industrializing economies* like Hong Kong, Singapore, Malaysia, or Taiwan registered output growth rates that were half or even less than those of a year ago. Those *heavily indebted countries*—like Brazil, Venezuela, Philippines and Peru—which traditionally ship more than one quarter of their exports to the United States, were all strongly hit by the slowdown of American imports. In fact, these countries, with the exception of Brazil, in the first three quarters of the year sold substantially less on the US markets than a year earlier.

In 1985 there were no dramatic changes in the global pattern of *current account balances* (chart 4.1.1). The developed market economies' combined current account deficit seems to have diminished again. The widening of the United States' deficit from some $100 billion in 1984 to $110 billion was entirely offset by the improvements in the other major market economies' balances.[392] It is noteworthy, because of its possible trade policy implications, that the biggest surplus country in the world, Japan, reached a record surplus ($47 billion) at a time when its merchandise imports were actually diminishing—in value terms by nearly 5 per cent. The weak trade performance of the European centrally planned economies resulted in a narrowing of their combined convertible currency surplus. It remains to be seen whether this was only due to the combination of exceptional circumstances or caused by the gradual exhaustion of additional export resources.

The *outlook* for world trade in 1986 is significantly affected by the fall in oil prices. Another factor of substantial importance is the currency realignment which started in the latter part of 1985. This should bring to a halt the downslide of United States' competitiveness and help to correct that country's large deficit which has been a threat to the world trading system. The trade impact of the adjustment of the exchange rate of the dollar will begin to make itself felt in the course of 1986, but may well be neutral as concerns world trade volume—an acceleration in US export growth being offset by a slowing in import growth in that country.

Available evidence suggests that the impact of the oil price erosion on economic activity in the developed market economies will be positive (see section 2.2). Faster growth at the core of the world economy will provide a general stimulus to volume growth in world trade which is also bound to benefit the exports of developing countries. This should more than offset a contrary effect stemming from the revenue loss and declining import capacity of fuel exporters. The distribution of benefits and losses is likely to be uneven, however, and some trade flows which depend significantly upon the earning power of fuel exporters may well suffer a setback. This includes *east-west* trade in which oil-based export revenues of the Soviet Union and some east European countries have traditionally played a large role. The possible impact of the "third oil shock" on east-west trade prospects are analysed in some detail below (section 4.4).

The oil price decline, however, also has again brought to centre stage the potential threat to the world financial and trading system stemming from the precarious situation of certain debtor countries. A number of medium-size indebted countries — Mexico, Nigeria, Venezuela, Poland—depend significantly on revenues from fuel exports which are or could be seriously eroded by these price developments. Recent developments in the world financial and debt situation will be examined in the following subsection.

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[392] See *Economic Report of the President*, prepared by the Council of Economic Advisors, Washington, 1986, p. 375.

(ii) Developments in the international financial markets and the debt situation [393]

Developments in the international financial markets

A record level of funds was raised on the international markets in 1985 (table 4.1.3). [394] The buoyant activity was supported by a large volume of debt-refinancing involving bond issues and bank loans. Both types of instruments became available at significantly lower cost owing to the decline in interest rates from the record high levels prevailing several years ago and also because of the narrowing of contractual spreads on loans to historically low levels. Other determinants of financial activity, including business investment, economic growth, and international trade appeared to be of secondary importance.

In terms of *credit instruments*, all of the increase in market activity was accounted for by Eurobonds, which constitute the predominant segment of the rapidly expanding external bond market. By contrast, loans, comprising syndicated loans and other international facilities, remained roughly unchanged. Within the loan aggregate there has been a trend away from traditional syndicated loans. They accounted for only about 15 per cent of the market in 1985, down from about one third in the peak years 1981-1982. An important factor underlying this contraction has been the increasing preference of borrowers with the highest credit ratings for alternative means of finance, especially through the bond markets and note issuance facilities. [395] The latter instruments have been among the fastest growing components of international back-up facilities which, if merger-related standbys are excluded, now exceeds the syndicated loans in importance.

Despite the overall rise in market activity, most *developing countries* found it more difficult to obtain loans. Credits raised by this group continued to decline to some $27 billion in 1985 and now represent less than 10 per cent of the funds market. Only one half of the credits negotiated in 1983 and 1984 and some two thirds in 1985 (some $12 billion in the latter two years) represent new voluntary lending by financial institutions. [396] Five developing countries—Algeria, China, Malaysia, South Korea and Thailand, plus Hong Kong, accounted for some four fifths of this borrowing. Heavily indebted borrowers with debt-servicing problems, including Latin American countries, have had access to this market only in conjunction with umbrella rescheduling agreements.

The slight downturn in *southern Europe's* borrowing in 1985 owes to appreciably lower credit takings by Spain, which more than offset expanded borrowing by Greece, Portugal and Turkey. A considerable share of Spain's activity in the market was aimed at renegotiating old credit lines, net borrowing requirement having been curtailed because of an improved current account. Of this group, only Yugoslavia has not been in a position to raise funds, owing to its heavy external debt burdens.

Funds raised by *eastern Europe and the Soviet Union* reached an all-time high of $5.2 billion. This volume, taken together with other indicators — a further widening in the range of eastern borrowers, appreciably improved credit terms, and some diversification in currencies in which loans are denominated — represents a normalization in credit market relations for most of these countries. A liquidity crisis and constricted access to credits in 1982 had reduced eastern credit takings in the funds market to less than 1 billion dollars.

East European and Soviet borrowings were concentrated in syndicated funds. In fact, they have been the only group of countries providing some buoyancy to what has otherwise been a contracting segment of the market, as noted. In the first 9 months of 1985, their share of total syndicated loans exceeded 10 per cent (a figure last attained in 1975), as compared with 5 per cent in 1984 and less than 2 per cent in 1983. [397]

Hungary is now believed to be the first east European country to enter into the booming renegotiation activity of sovereign debt, by renegotiating the terms of a $210 million bankers acceptance facility originally arranged in 1984. Reductions in the acceptance commission received by participating banks and in the contractual spread over LIBOR are being sought and the maturity is to be extended from 1987 to 1990. [398]

Recent developments in the global debt situation

The progress made toward easing the international debt situation in 1983-1984 received a setback in 1985. Prior to 1985, current account imbalances of debtor countries had improved appreciably and, in the case of the developing countries, [399] had declined to the lowest levels since the 1970s. Exports generally performed well, reserve positions improved and, certain types of financial credits developed favourably. As a result the accumulation of debt slowed and, on the whole, the debt burden lightened somewhat, or, depending on the measure, ceased to increase (see table 4.1.4). However, other indicators of domestic economic activity—economic growth, per capita income, employment, and inflation—generally performed much less favourably in the majority of the highly indebted countries. Based upon projected economic growth in the developed market economies in 1985, the outlook had been for further improvement in external financial positions.

Underlying the deterioration or lack of improvement in debt indicators of debtor countries in 1985 was a generally weak export performance. While only partial-year and sometimes geographically incomplete data are now available, they indicate that the export earnings of all groups treated here—developing countries, oil exporters, and eastern Europe and the Soviet Union—turned downward to different extents, despite the continued expansion of the industrial market economies' imports. Only southern Europe's exports advanced marginally in value terms. The slowdown in the expansion of import demand in the developed market economies (mainly in the United States), in

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[393] This section complements other parts of this *Survey* in which issues involving external finance are raised: southern Europe (in section 2.7) and especially east-west economic relations (sections 4.2-4.4).

[394] The data in table 4.1.3 include merger-related standbys and renegotiations and they are not adjusted for double counting.

[395] OECD, *Financial Market Trends*, October 1985, p. 34. Typically, contractual spreads applying to note issuance facilities are one-half (or even less) of those current in the syndicated loan market.

[396] These percentages are OECD estimates (OECD, *loc. cit.*, p. 43). The balance of the credits were provided under the umbrella of rescheduling packages.

[397] OECD, *loc. cit.*, p. 39.

[398] *Financial Times*, 18 February 1986. A recent exercise by the German Democratic Republic, covering $1.5 billion in loans, involved only technical changes in loan terms, but not a cut in interest margins.

[399] Throughout this section, "developing countries" pertain to the IMF's grouping "capital-importing developing countries" less the IMF's grouping, "Europe". The IMF defines capital-importing developing countries as all developing countries except eight Middle Eastern oil exporters (Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudia Arabia, the United Arab Emirates). IMF, *World Economic Outlook*, Washington, D.C., April and October 1985. Most of the data relating to the developing countries are based upon the *revised projections* in the October paper. "Southern Europe" includes Greece, Portugal, Spain, Turkey and Yugoslavia.

TABLE 4.1.3

Funds raised on the international markets, by instrument and borrower, 1982-1985

(In billions of US dollars)

	1982	*1983*	*1984*	*1985*
Total [a]	179.1	157.8	228.8	283.3
By instrument:				
External bonds	75.5	77.1	111.5	167.7
Loans	103.6	80.7	117.3	115.6
of which:				
Syndicated loans	98.2	67.2	62.0	59.1
Other international facilities	5.4	13.5	55.3	56.5
By borrower: [b]				
Industrial market economies [c]	115.6	104.4	171.5	224.3
Other countries	53.3	43.8	45.5	43.3
of which:				
Southern Europe [d]	6.8	7.8	9.4	9.0
Middle east oil exporters [e]	2.1	2.4	1.7	1.7
Other developing countries [e]	43.6	32.5	31.0	27.4
Eastern Europe and the Soviet Union [f]	0.7	1.1	3.4	5.2

Source: OECD, *Financial Statistics Monthly*, Paris, January 1986.

[a] Includes merger-related standbys and renegotiations.

[b] Excludes international development institutions, other countries and unattributable.

[c] OECD, less Greece, Portugal, Spain and Turkey.

[d] Greece, Portugal, Spain, Turkey and Yugoslavia.

[e] See definition in text below.

[f] Includes CMEA banks.

TABLE 4.1.4

Debt indicators, by major region

(In billions of US dollars and per cent)

	1980	*1981*	*1982*	*1983*	*1984*	*1985[*]*
			Developing countries [a]			
Gross debt ($ billions)	506	602	691	746	777	812
Debt-export ratio (%)	111	127	155	168	160	166
Debt service ratio (%)	17	21	24	22	23	25
Interest payment ratio	9	12	14	14	14	14
Reserves ($ billions)	111	107	97	105	121	126
Reserves-imports ratio	21	18	18	21	23	23
			Southern Europe [b]			
Gross debt ($ billions)	74	84	89	92	98	101
Debt-export ratio (%)	93	97	105	116	113	115
Debt service ratio (%)	16	19	20	23	26	25
Reserves ($ billions)	18.5	16.7	12.6	12.6	17.4	18.9
Reserves-imports ratio	20	17	13	14	20	21
			Eastern Europe and the Soviet Union [c]			
Gross debt [d] ($ billions)	92	97	91	88	85	96
Debt-export ratio (%)	130	135	122	116	110	138
Interest payment ratio (net)	11	14	12	9	9	9
Reserves [e] ($ billions)	15.7	15.2	16.4	19.7	22.1	24.5
Reserves-imports ratio [e]	21	25	30	35	43	
			Total above			
Gross debt ($ billions)	672	783	871	926	960	1 009

Sources: Developing countries: based upon IMF, *op. cit.* (October), various tables; southern Europe: national sources and ECE secretariat estimates; eastern Europe and the Soviet Union: same as table 4.3.5.

[a] Ratios reflect trade in goods and services.

[b] Ratios reflect trade in goods, services and transfers.

[c] Ratios reflect merchandise trade with market economies only.

[d] In convertible currencies only.

[e] Assets held at BIS reporting banks only.

conjunction with lower oil and commodity prices, depressed developing country export receipts.

The net outward transfer of resources has been a continuing negative factor from the point of view of economic growth in the developing countries. On the one hand the net interest and profit payment of these countries have remained at high levels while the net inflow of capital has contracted. This latter development itself has been the outcome of reduced inflows of financial credits and substantial outflows of private capital. [400]

On the side of positive developments, some relief has been realized through the fall in nominal interest rates—about 2 percentage points for the US dollar in which some 90 per cent of developing countries' floating rate liabilities are denominated. Real interest rates, which take into account price changes in the developed market economies, are down less since the inflation in these countries has eased noticably.

Also, commercial banks have continued to add substantially to their loan-loss reserves and have greatly expanded their capital base. As a result, they are now less vulnerable than at the onset of the debt crises to adverse development affecting their credits to developing countries. [401]

Thanks to the strong adjustment policies implemented by the developing countries, their current account deficit contracted from around $100 billion in 1981 and 1982 to about $35 billion in 1984. Estimates made by the IMF in October 1985 foresaw little change in the deficit in 1985. Measures of debt burden were, on balance, projected to deteriorate (table 4.1.4). While no change in the developing countries' interest payments ratio was foreseen, the debt service and debt export ratios were expected to turn up again. On the positive side, however, some of the rise in gross liabilities was to have been attributed to the further amelioration in reserve positions and the depreciation of the US dollar.

However, it is now likely that the developing countries' export performance was weaker and that their trade balances deteriorated more than foreseen earlier by the IMF. [402] Data on the trade of the developing countries are presently available only for the first three quarters of 1985 and only reflect the segment of their interchanges with the industrialized countries. These show a 5 per cent fall in the developing countries' exports. [403] Although their imports also declined (by 2 per cent) the current account deficit is likely to have turned out larger. Accordingly the external debt and debt burden indicators presumably turned up more sharply than had originally been estimated by the IMF.

Economic activity in the developing countries also appears to have been disappointing in 1985. The final output growth rate is likely to be somewhat below the 2.1 per cent recorded in 1984. [404] Such a figure would imply only a scant rise in per capita product and leave its level significantly below that of the early 1980s. This stagnation in living standards and the lack of prospects for significant improvement have been the cause of mounting concern, particularly since the feeling has grown that the populations of some countries have reached the limits of belt-tightening. Accordingly the authorities in the developing countries have been increasingly insistent on the need for more growth before undertaking additional adjustment. Their creditors, on the other hand, have emphasized the need for growth and adjustment to proceed simultaneously.

Southern Europe has effectuated considerable adjustment in its external balances since 1980 when its current account deficit peaked at some $14 billion. By 1984, the deficit had been compressed to only $1.5 billion and is likely to remain unchanged in 1985. Accordingly, the accumulation of external debt has slowed noticably, surpassing $100 billion at the end of 1985. Apparently a portion of the accretion in liabilities has gone to bolster international reserves. They now cover over two and a half months' imports of goods, services and transfers at the end of 1985. A further expansion of export of goods, services and transfer receipts by an estimated 2 per cent is expected to leave the debt export ratio marginally higher in 1985 and the debt service ratio down slightly. According to this latter measure, the debt burden is still high by historical standards, but appears to have peaked.

For *eastern Europe and the Soviet Union* combined, the trend toward improving current account balances *vis-à-vis* the market economies was reversed in 1985 when a surplus of over $9 billion recorded in 1984 was reduced to some $1 billion. Gross external debt started to rise again, further asset accumulation and especially the depreciation of the US dollar contributing to this outcome. About one half of the eastern debt is denominated in non-dollar currencies which rose some 20 per cent against the US dollar, thereby raising eastern indebtedness by some 10 per cent in US dollar terms. [405] A sharp downturn in the export of goods to the market economies in 1985 added to the debt burden for the region as measured by the debt/export ratio. However, the interest payments ratio remained unchanged since interest payments also declined. Eastern reserves, measured here only as eastern deposits in BIS reporting banks, continued to rise in 1985, increasing to over five the number of months of imports covered.

Global debt, defined as the sum of the external gross indebtedness of the developing countries, southern Europe, eastern Europe and the Soviet Union, is estimated to have reached some $960 billion in 1984 and to have exceeded $1,000 billion in 1985 (table 4.1.4). The overwhelming part (some four fifths) is accounted for by the developing countries, the remainder being about equally shared by the two other groups.

Prospects

While the recent significant drop in oil prices may be expected to have an overall beneficial effect upon the evolution of the global debt situation, the adverse impact upon the external balances of certain highly indebted oil-producing countries has evoked considerable concern. On the side of the developed market economies, the cut in oil prices is generally expected to spur economic growth (as discussed in chapter 1) with concomitant implications for their import demand. Their output may expand by more than 3 per cent, a rate which is generally taken as a minimal precondition for some progress in the international debt situation in the absence of a substantial decline in interest rates. However, it should also be remembered that an only somewhat slower rate of economic expansion in the developed market economies in 1985 did not automatically result in favourable export performance on the part of highly indebted nations. That experience pointed to the importance of the geographical pattern of import growth in the developed market economies. The United States, which had a very high pace of imports absorption in 1983 and 1984 also has a high propensity to import from the developing countries. Furthermore, any increase in protectionism could also offset the benefits of more buoyant economic growth. Indeed, more favourable prospects for domestic economic activity and employment could help to diffuse calls for additional protectionist measures. The recent co-ordinated reduction in the interest rates on several key currencies would tend to reduce debt burdens.

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[400] According to Mr. R. Leigh-Pemberton, governor of the Bank of England, flight of capital from Latin America alone can be estimated at some $80 billion since 1981, an amount equal to the foreign debt incurred by those countries since that year. *International Herald Tribune*, 28 January 1986.

[401] Morgan Guaranty Trust, *World Financial Market*, September/October 1985, p. 4.

[402] The IMF projections for 1985 were based upon growth rates for the value of export and imports of about 2 per cent (excluding the Middle Eastern oil producing countries).

[403] The industrialized countries absorb a considerable share of total developing country exports and therefore export to them are probably a good indicator for total flows. Preliminary figures for Latin America's total exports indicate a contraction of 6 per cent, while its imports were some 2 per cent lower. Thus, its merchandise trade and current account balance of payments deteriorated. United Nations Economic Commission for Latin America and the Caribbean, *Preliminary Overview of the Latin American Economy 1985*, December 1985.

[404] Latin America's GDP rose by 2.8 per cent in 1985 compared with a rise of 3.2 per cent registered in the previous year. This permitted an increase of some 0.5 per cent in per capita product which stood at a level of almost 9 per cent below that of 1980. In fact, growth in the area was concentrated in very few countries, especially in Brazil (7 per cent).

[405] Exchange rate changes have a smaller proportional effect on the US dollar debt of the developing countries since the non-dollar component is much smaller.

For most developing countries, appreciably lower oil import bills should take some pressure off their current accounts, permitting them to step up imports and/or facilitating their servicing of debt. The immediate challenge, however, is to oil-exporting countries such as Mexico, Nigeria, and Venezuela on the one hand, and international financial institutions on the other, to develop and implement plans for preserving their solvency.

4.2 EAST-WEST TRADE[406]

In 1985, eastern exports to the west faltered. East European deliveries were down slightly while those from the Soviet Union declined sharply. Internal factors appear to have been the main cause. East European import growth gained momentum, causing some narrowing of the trade surplus. The Soviet Union swung into deficit. The review below analyses western imports by country of origin and destination and by commodity (subsection (ii)), followed by an analysis of western exports in a parallel fashion (subsection (iii)) and a review of changes in western trade balances (subsection (iv)). Subsection (v) offers some observations on the causes of the downturn of eastern exports.

(i) Overview

Last year eastern exports to the developed market economies faltered following a three-year recovery. In the first three quarters of 1985 east European exports were down slightly in real terms while those of the Soviet Union declined appreciably. In both cases, these results represent some improvement compared with those recorded earlier in the year when trade was adversely affected by an exceptionally harsh winter. Nevertheless, other factors, possibly of a more long-term nature, e.g., declining oil production in the Soviet Union, also played a role. After several years of decline or stagnation, east European imports from the west had turned up in 1984 and they gained momentum in 1985. In part, the quickening pace in 1985 reflected purchases to compensate for supply shortfalls which arose during the course of the winter. As a consequence of the weak export performance and buoyant imports, eastern Europe's trade and current account surplus with the market economies narrowed somewhat. By contrast, the Soviet Union's imports from the west slowed in 1985, mainly because of sharply reduced grain imports from North America in the third quarter. Despite that downturn, the Soviet Union's trade and current account balance went from a substantial surplus to a small deficit in 1985.

Eastern Europe's borrowing in the financial markets in 1985 reached a record level, but most of this appears to have been intended to consolidate further these countries' external financial position through the building up of assets, restructuring of maturities and lowering costs. Hence, the increase in net debt in US dollars which is estimated for 1985 is due exclusively to the sharp depreciation of the US dollar against other currencies. The exchange rate factor is also partially responsible for the rise in the Soviet Union's net indebtedness, but the current account deficit played a role as well.

Owing to a convergence of factors, 1986 may well mark the beginning of a new phase in east-west trade. Since the early 1970s, the overall expansion of east-west commerce owed much to developments in the energy sphere. A combination of rising energy prices and eastern capacity to export fuels resulted in appreciable increases in revenues, especially for the Soviet Union. To an important extent these earnings underpinned import growth from the developed market economies. However, the sharp drop in oil prices in early 1986, together with the uncertainty surrounding the development of eastern fuel supplies, are likely to weaken severely one of the key supports for east-west trade; it will be difficult to offset this by increased sales of other eastern goods in the west as those economies expand. On the positive side, however, the recent events may force more attention to be paid to important factors constraining east-west trade: the high share of primary materials and fuels in eastern exports and lagging domestic structural change and modernization.

(ii) Western imports turn downwards

The two-year recovery in *western imports* from *eastern Europe* was cut short in 1985. After having expanded by an exceptional 16 per cent in real terms in 1984 (outpacing the growth of western imports from the world) western imports from eastern Europe declined slightly—by 1 per cent—in the first three quarters of 1985 (table 4.2.1 and chart 4.2.1).[407] In comparison, total western imports from the world rose by 6 per cent. Although this contraction of purchases from eastern Europe constitutes a disappointing performance, the results to September nevertheless show a slight improvement over the performance in the first half of the year. Western imports from eastern Europe turned upward in the third quarter (relative to the same period the previous year), but at a pace somewhat below the expansion of western imports from the world. Moreover, that recovery was insufficient to allow the shortfall which eastern exporters experienced in the first quarter to be made up by year's end. Two other observations can be made on the third quarter results. First, the improvement does not appear continuous throughout that period as imports advanced strongly in July, then fell sharply in August and recovered only partially in September. Second, not all east European countries contributed to the third quarter upturn, imports from Poland and especially Romania having fallen. Both results may have implications for future developments.

The decline in western imports from eastern Europe was due to lower imports into the *European Communities*, which were down by 5 per cent in value and about 1 per cent in volume, and into *Japan*, which fell by 30 per cent in value. On the other hand, imports into the *EFTA* countries and *North America* advanced marginally in volume, but declined in value (table 4.2.2).

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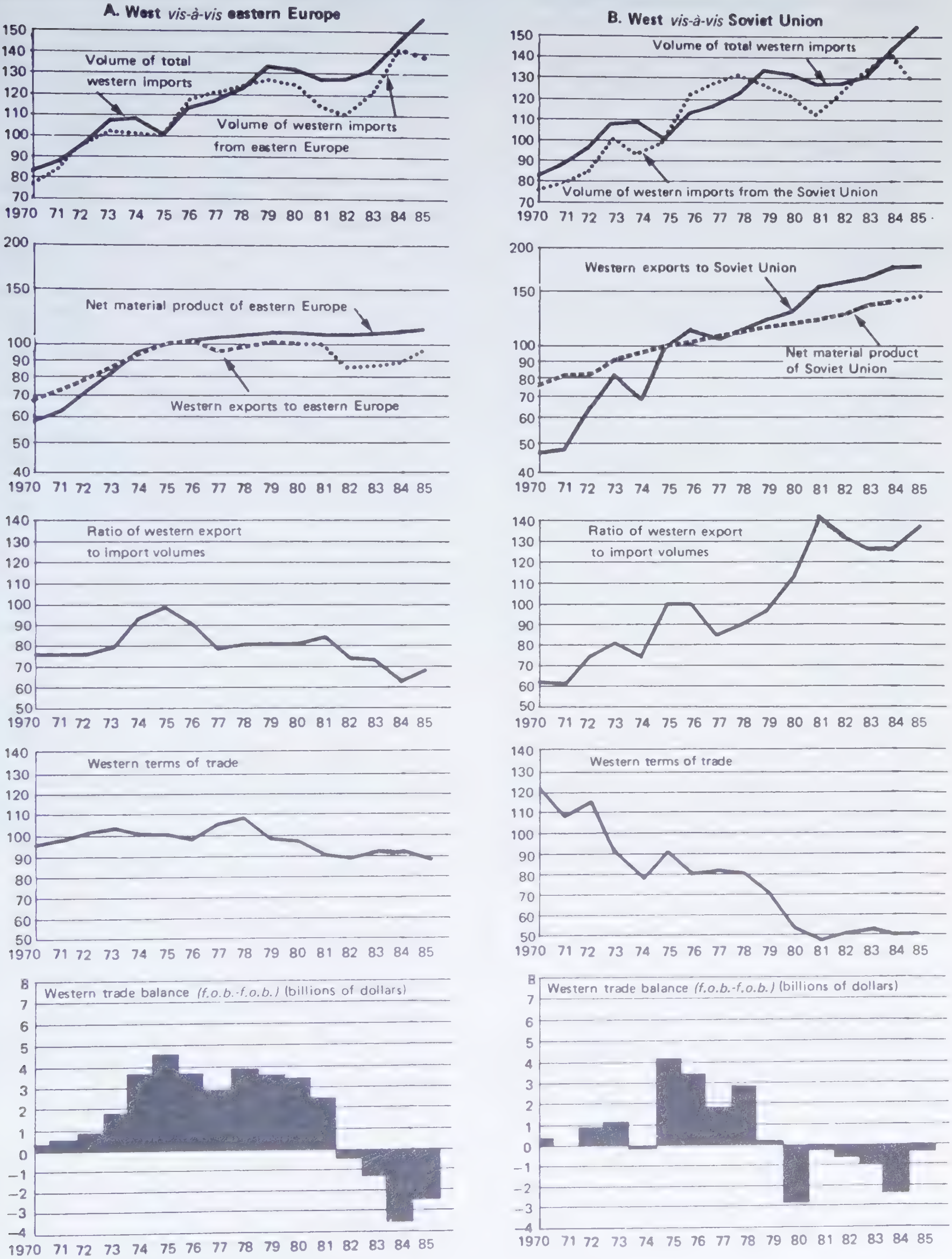
[406] The term "developed market economies" (or for convenience "west" or "western") as used here refers to the countries of western Europe (including Turkey and Yugoslavia), North America and Japan. This grouping is intended only for statistical convenience. The term "eastern Europe" refers to Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania taken together; the term "east" or "eastern countries" refers to eastern Europe together with the Soviet Union.

This section serves to up-date the data and analysis provided in Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985, completed in October 1985.

[407] Unless otherwise noted, data for 1985 in this section refer to the first three quarters only and growth rates are for the first three quarters relative to the same period in the previous year. These data should be considered preliminary.

CHART 4.2.1

International trade of the developed market economies with eastern Europe and the Soviet Union



Source: As for table 4.2.1; 1985 trade balances from table 4.2.1.

TABLE 4.2.1

East-west trade: value, volumes, prices, and terms of trade
(Percentage change over the same period of previous year)

	Western exports					*Western imports*				
To/From	*1981*	*1982*	*1983*	*1984*	*1985 Jan.-Sept*	*1981*	*1982*	*1983*	*1984*	*1985 Jan.-Sept*
					Values (in US dollars)					
Eastern Europe and the Soviet Union	−4	−7	−4	−3	−2	−7	–	−1	6	−9
of which:										
Eastern Europe	−15	−18	−5	−5	3	−13	−7	1	10	−5
Soviet Union	9	3	−4	−2	−4	−2	5	−3	3	−11
					Volumes					
Eastern Europe and the Soviet Union	6	−4	1	3	2	−8	4	7	11	−5
of which:										
Eastern Europe	−4	−13	–	–	7	−9	−2	8	16	−1
Soviet Union	15	2	2	5	1	−8	10	7	6	−8
					Prices (in US dollars)					
Eastern Europe and the Soviet Union	−9	−2	−6	−6	−5	1	−4	−8	−5	−4
of which:										
Eastern Europe	−12	−5	−5	−5	−5	−5	−4	−6	−5	−4
Soviet Union	−6	1	−6	−7	−5	6	−5	−9	−3	−4
World										
Values	−2	−5	−1	6	−2	−5	−6	−4	9	−1
Volumes................	2	−1	2	9	5	−3	–	5	11	6

Western terms of trade (1975 = 100)

	1981	*1982*	*1983*	*1984*	*1985*
Eastern Europe and the Soviet Union	65	65	67	66	65
of which:					
Eastern Europe	89	89	90	90	89
Soviet Union	48	51	53	51	50

Sources: United Nations commodity trade data (COMTRADE), OECD, *Statistics on Foreign Trade, Series A*, Paris; IMF, *Directions of Trade* and *International Financial Statistics*, Washington, D.C.; Statistisches Bundesamt, *Warenverkehr mit der Deutschen Demokratischen Republik und Berlin (Ost)*, Reihe 6, Wiesbaden; United Nations, *Monthly Bulletin of Statistics* (volume indices of total western exports to and imports from the world); national statistics.

Price and volume indices: for the methodology and derivation, see United Nations Economic Commission for Europe, *Economic Bulletin for Europe*, vol.31, No.1, New York, 1979.

These data reflect the trade of 23 western reporting countries (Appendix table C.6 contains a list of the countries included). The same data are used in chart 4.2.1. The indices of net material product of eastern Europe and the Soviet Union used in the chart are based upon the national statistical sources of those countries.

The overall weakness in western imports from eastern Europe in the first three quarters taken together reflects reduced exports from Czechoslovakia, the German Democratic Republic and Romania, and slow volume increases in the exports of most of the others (table 4.2.3).

Western imports from the *Soviet Union* declined by some 8 per cent in real terms in the first nine months of 1985 (table 4.2.1 and chart 4.2.1). A negative rate for the entire year is thus likely to emerge, the first since 1981. The development of these imports was uneven during the year—a sharp drop in the first quarter was followed by a recovery in the second quarter to roughly the same levels achieved in the corresponding period of the previous year. Imports maintained this same relationship in the third quarter. Therefore, it appears that, while imports recovered impressively in the second and third quarter, Soviet exports to the west for all of 1985 remained below the levels reached in 1984. Imports from the Soviet Union into the regions of destination presented in table 4.2.2 all declined by similar amounts.

Imports by commodity[408]

Most commodity groups contributed to the decline in the value of total western imports from *eastern Europe* in the first three quarters of 1985 (see table 4.2.4). *Food* imports were an exception increasing by 4 per cent in value and perhaps by as much as 15-25 per cent in volume. Quantities from all east European countries rose with those from Poland leading the way. *Ores and minerals* imports increased by 5 per cent in value (see table 4.2.9) and some 10 per cent in real terms. *Engineering goods* purchases stagnated in value, but increased about 3 per

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[408] The changes in the *commodity* components of east-west trade in 1985 can be sketched out at this time only on the basis of COMTRADE data for a *sample* of mainly European reporting countries. The sample includes almost all west European countries, plus Canada and Japan. It excludes the United States, Italy and Yugoslavia. The absence of data for the United States implies that a large component of east-west trade in agricultural products is lacking. The classification used is described in table 4.2.9 which also includes a more detailed commodity breakdown of western imports by eastern country of origin.

TABLE 4.2.2

East-west trade: changes in trade value, by country group

(*Percentage change in US dollar terms*)

	Western exports					Western imports				
	1981	*1982*	*1983*	*1984*	*1985* [a]	*1981*	*1982*	*1983*	*1984*	*1985* [a]
EC with:										
Eastern Europe	-17	-17	-6	-6	7	-19	-4	-4	9	-5
Soviet Union	-17	–	22	-12	-9	-5	13	-2	9	-11
Eastern Europe and the Soviet Union	-17	-10	7	-9	-3	-12	5	-3	9	-17
EFTA with:										
Eastern Europe	-19	-12	-4	1	–	-16	2	-1	3	-2
Soviet Union	23	–	-4	-15	3	3	-4	-4	-9	-12
Eastern Europe and the Soviet Union	3	-4	-4	-9	-5	-4	-2	-3	-5	-13
North America:										
Eastern Europe	-20	-39	-17	-2	-20	21	-30	18	55	-3
Soviet Union	39	9	-20	43	-28	-17	-33	48	61	-17
Eastern Europe and the Soviet Union	10	-9	-19	32	1	11	-31	24	56	15
Japan:										
Eastern Europe	-7	-24	30	-34	7	-11	-14	47	45	-30
Soviet Union	17	20	-28	-11	11	-18	-12	3	-1	-8
Eastern Europe and the Soviet Union	12	11	-20	-16	5	-17	-12	8	7	-21

Source: As for table 4.2.1.

Note: Appendix tables C.6 and C.7 contain similar data for all western countries.

[a] January-September.

TABLE 4.2.3

East-west trade: change in volumes, by eastern country, 1981-1985

(*Percentage change*)

	Western exports					Western imports				
To/From	*1981*	*1982*	*1983*	*1984*	*1985* [a]	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Bulgaria	32	-14	8	-1	18	-13	3	-6	13	5
Czechoslovakia	-4	2	-4	–	6	-4	2	8	9	-5
German Dem. Rep.	4	-6	14	-8	-4	–	9	8	6	-2
Hungary	15	-7	-3	3	17	-3	-4	9	13	3
Poland	-25	-18	-6	8	12	-29	-6	7	25	2
Romania	-13	-41	-19	10	3	3	-19	10	42	-5
Eastern Europe	-4	-13	–	–	7	-9	-2	8	16	-1
Soviet Union	15	2	2	5	1	-8	10	7	6	-8
Eastern Europe and Soviet Union	6	-4	1	3	2	-8	4	7	11	-5
World	2	-1	2	9	5	-3	–	5	11	6

Source: As for table 4.2.1.

Note: Appendix table C.9 contains similar data for all eastern countries, but in current US dollars.

[a] January-September.

cent in volume. This reflected higher deliveries by all eastern exporters except Poland. Within the engineering group, western *machinery* imports were more buoyant than the average, exclusively on the strength of higher purchases of these goods from Bulgaria (34 per cent in value), Czechoslovakia (17 per cent) and Hungary (10 per cent). *Motor vehicles* were a bright spot especially in Romania's engineering exports, but also in Hungary's and Poland's. *Textile* imports also advanced in value and real terms.

Import values of all other commodities declined. The most notable fall was in *semi-manufactures*, by 9 per cent in value and 6 per cent in volume. Of this group, the fall in imports of *iron and steel* (by appreciable amounts from all countries except the German Democratic Republic) had the largest impact. The effect of lower *fuel* imports was somewhat smaller—they declined by 3 per cent in value terms and stagnated in volume terms because of lower purchases of *petroleum products*. In value terms, the reductions were concentrated in the German Democratic Republic. Only fuel imports (petroleum products) from Bulgaria rose. [409]

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[409] Romania reported that its exports of refined petroleum fell to 5.0 million tons in the first half of 1985 compared with 5.3 million tons in the corresponding period of the previous year. Also Romanian oil production fell by 7 per cent in the first half but imports of crude remained unchanged at 6.7 million tons. Poland's total exports of coal to capitalist countries amounted to 23.9 million tons in 1985, down from 24.8 million tons in 1984.

TABLE 4.2.4

Western imports from eastern Europe and the Soviet Union and the World, by commodity, first three quarters 1985
(Changes [a] and shares in per cent; increments [a] in millions of US dollars)

	World change	Eastern Europe			Soviet Union		
		Share	Increment	Change	Share	Increment	Change
Total	−3	100	−322	−3	100	−1 554	−11
Primary products	−7	24	−41	−2	11	−335	−18
Food	−6	10	41	4	1	−18	110
Fuels	−6	24	−66	−3	79	−1 089	−9
Manufactures	–	51	−223	−4	9	−64	−5
of which:							
Semi-manufactures	−2	19	−184	−9	6	−70	−8
Engineering	3	9	−3	–	2	9	4
Consumer goods	−3	23	−37	−2	1	−2	−3

Source and definitions: As in table 4.2.9.

Note: Shares and increments of components may not sum to the totals because of incomplete reporting by commodity. Changes in total trade may not agree with the data in tables 4.2.1 and 4.2.3 because of differences in country coverage.

[a] Relative to same period in 1984.

Generally, western imports from eastern Europe in most commodity groups were less dynamic than western imports of those commodities from the world. Also, despite the fall in the value of primary goods and fuels, their combined share in total western imports from eastern Europe remained unchanged at around one half, attesting to a continuation of the excessive dependence of east European exports on these goods.

Lower flows of *crude oil and petroleum products* from the *Soviet Union* were the major factor depressing western imports from that country. A sizeable proportion of that setback can be attributed to production and transport problems during the first quarter when oil and petroleum products purchases were more than 40 per cent below the same period in the previous year. The subsequent recovery in total western imports was due mainly to the surge in Soviet oil and oil product exports in the second quarter, which nonetheless still remained 8 per cent below those of the comparable period in 1984. [410] In the third quarter, Soviet exports of these fuels finally exceeded those in the previous years by 5 per cent, but this was insufficient to compensate for the losses in the first half. Preliminary OECD/IEA data for the last quarter, however, indicate a drop in Soviet exports to a level again below that of the same period in 1984. These export developments throughout the year took place against the background of some slippage in Soviet oil production from 613 million tons in 1984 to 595 million tons in 1985. [411]

The Soviet Union's exports of *natural gas* were also unfavourably affected in the first quarter by the winter conditions. But subsequently deliveries ran ahead of those in the previous year. [412] Preliminary estimates for all of 1985 suggest that deliveries were roughly unchanged in volume from 1984 levels. Hence if account is taken of a probable decline in prices, the Soviet earnings from natural gas exports are likely to have fallen in 1985.

For more than a decade, Soviet and east European exports of fuels to the west have been of considerable importance for the development of east-west trade. Owing to their large share in total eastern exports to the developed market economies (about 25 per cent and 77 per cent respectively of total east European and Soviet exports), any change in these flows will have a substantial impact on overall east-west trade (see table 4.2.5). During 1973-1980, fuels accounted for $4.3 billion of the $14.5 billion increment in total western imports from eastern Europe, while they amounted to $16.7 billion of the $22 billion increment in western imports from the Soviet Union. In 1980-1984, fuels were the only major commodity which provided some buoyancy to western imports from both eastern Europe and the Soviet Union and thereby increased their share further. While the volume growth underlying these figures has been impressive, the effect of price increases on incremental export revenues has been even more dramatic—accounting for perhaps some two thirds of them.

A fall in the *quantity* of Soviet oil exports in 1985 constitutes a departure from recent trends. In 1982-1984, the Soviet Union managed to raise its export receipts from fuels despite falling prices, through successive boosts in the volume of oil and oil products (in 1984 gas volumes also rose). This was accomplished in spite of initially stagnating and then declining oil production. It seems that the factors contributing to the rise in the oil export surplus were the rapid substitution of natural gas for oil in certain domestic applications and the re-export of oil obtained from some OPEC producers in payment for Soviet goods.

(iii) Western exports continue to expand

The expansion in the volume of western exports to the east in the first three quarters of 1985 reflects an upswing in sales to eastern Europe and some slackening in export growth to the Soviet Union. The overall pace was below that of western exports to the world.

After a weak recovery beginning in 1984, [413] the pace of *western exports* to *eastern Europe* quickened in the first three quarters of 1985 to about 7 per cent in volume (table 4.2.1 and chart 4.2.1). Data by western subregions of origin in *value* terms indicate that the *European Communities'* and *Japan's* exports to *eastern Europe* (both showing 7 per cent increases) per-

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[410] OECD, *Monthly Oil and Gas Statistics*, No. 4, Paris 1986.

[411] *Pravda*, 26 January 1986.

[412] Based upon EUROSTAT, *Hydrocarbons*, 12/1985, for the first three quarters, volumes imported by the European Communities were still some 5 per cent below those in 1984.

[413] A growth rate of less than half of one per cent.

TABLE 4.2.5

Western imports from eastern Europe, the Soviet Union and the World, by major commodity: values, shares and increments
(Billions of US dollars, percentages)

	1984		Increment	
	Level	Share	1973-1980	1980-1984
From eastern Europe:				
Fuels	5.2	25.4	4.3	—
Primary materials	3.7	18.1	1.5	−0.7
Manufactures	11.5	56.1	8.6	−1.6
Total	20.6	100.0	14.5	−2.2
From Soviet Union:				
Fuels	21.5	77.0	16.7	3.0
Primary materials	2.4	8.7	1.5	−0.9
Manufactures	3.7	13.2	3.6	−1.6
Total	28.0	100.0	22.1	0.6
From World:				
Fuels	290	22.2	317	−76
Primary materials	214	16.4	136	29
Manufactures	784	60.0	495	40
Total	1 307	100.0	961	−63

Source: Secretariat estimates based upon COMTRADE. Shares and increments may not sum to the totals because of incomplete reporting by commodity.

formed more favourably than did those of the *EFTA* countries, which stagnated (table 4.2.2). In physical quantities their growth rates amounted to about 11 and 4 per cent respectively. By contrast, *North American* exports continued on a steep long-term decline.

The gain in the momentum of western exports to east Europe in the first three quarters of 1985 was due to the pick-up in purchases by all countries except the German Democratic Republic, where the volume of sales declined again (table 4.2.3).[414] There was some quickening in the third quarter that resulted from an upturn in exports to Romania and a slackening in the rate of decline of sales to the German Democratic Republic.

Western exports in physical quantities to the *Soviet Union* slowed to a mere 1 per cent in the first three quarters of 1985, down from 5 per cent in the previous year (table 4.2.1 and chart 4.2.1). Underlying this apparent easing in the pace are two distinct phases, which can be largely explained by the evolution of Soviet grain imports. The pick-up in the purchases of these goods in the second half of 1984 carried over into the first half of 1985 when they pushed the Soviet Union's total import growth rate to 9 per cent. However, in the third quarter the Soviet Union's total imports plunged, apparently because of a lower need for grains following a better harvest. This interpretation is supported by partner country trade statistics which show a considerable rise in *North America's* exports to the Soviet Union (which include a large grain component) in 1984 and through the first half of 1985. The subsequent fall in total western exports in the third quarter of 1985 was concentrated on North America, the *European Communities* experiencing a much smaller decline in exports. By contrast, the exports of the *EFTA* countries, *Yugoslavia* and *Japan* rose in this latter period.

Western exports by commodity[415]

Most commodities participated in the rise in volume of *western exports to eastern Europe* (table 4.2.6). *Food* was the main exception, falling 18 per cent in value terms and some 8-10 per cent in volume, with the major reduction coming mainly from lower sales to the German Democratic Republic. Exports of other *primary goods* also fell but by lesser amounts. Western *fuel* deliveries surged, both coal and petroleum products contributing to the rise. This is consistent with the reports of several eastern countries that they had to step up their fuel purchases in the first part of the year to supplement domestic supplies and imports from traditional CMEA suppliers. *Manufactured goods* exports advanced in value by 7 per cent, or 11 per cent in volume. Of this group, *engineering goods* led the way with a rise of 10 per cent in value and (some 14 per cent in volume) despite much lower sales to Romania and unchanged quantities to the German Democratic Republic. Exports to all other countries rose, with rates of between 20-30 per cent (in volume) being recorded by Bulgaria, Hungary and Poland. 1985 was the second year running in which engineering goods exports to Czechoslovakia, Hungary and Poland have risen. In all of these cases, the upturn represents a change from the stagnation or decline experienced in the period since the mid-1970s. Deliveries of *consumer goods* increased to all countries, but especially to the German Democratic Republic. Also, all subsections of *semi-manufactures* were up in value and in volume except possibly *iron and steel*. For most east European importing countries the expansion was broadly based in terms of commodities.

The fall in western *exports* to the *Soviet Union* concentrated on *food* and *engineering goods* (only exports of motor vehicles rose). The drop was partially offset by higher exports of *semi-manufactures* (both *iron and steel* and *chemicals*), and to a lesser extent by *consumer goods*.

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[414] The Czechoslovak plan for imports was nevertheless not fully met, owing, in fact, to the non-fullfilment of the import plan for machinery and equipment. K. Hájek, "Devizové aspekty hospodárské politiky v roce 1985", *Finance a úver*, No. 4, 1985, p. 228. A 14 per cent increase in machinery and equipment imports from the non-socialist countries had originally been planned for 1985 (*Rudé Právo*, 6 December 1984).

[415] See footnote 408 dealing with commodity data. The data in table 4.2.10 also includes a more detailed commodity breakdown of western exports by eastern country of destination.

TABLE 4.2.6

Western exports to eastern Europe and the Soviet Union and the World, by commodity, first three quarters 1985
(Changes [a] and shares in per cent; increments [a] in millions of US dollars)

		Eastern Europe			Soviet Union		
Origin	*World change*	*Share*	*Increment*	*Change*	*Share*	*Increment*	*Change*
Total	–1	100	457	5	100	–804	–7
Primary products	–8	18	–223	–12	20	–668	–23
Food	–7	10	–191	–18	16	–493	–21
Fuels	–12	6	243	73	1	–12	–10
Manufactures	2	73	421	7	77	–159	–2
of which:							
Semi-manufactures	–	34	91	3	37	388	10
Engineering	3	29	237	10	32	–578	–14
Consumer goods	2	11	93	11	8	31	4

Source and definitions: As in table 4.2.9.

Note: Shares and increments of components may not sum to the total because of incomplete reporting of commodities. Changes in total trade may not agree with the data in table 4.2.1 and 4.2.3 because of differences in country coverage.

[a] Relative to same period in 1984.

(iv) Western trade deficit narrows

The trade deficit which the west had recorded with the east in 1983-1984 contracted noticeably in the first three quarters of 1985. Almost one half of the change stemmed from a lower trade deficit with *eastern Europe*, which narrowed to $2 billion in the first three quarters of 1985 from some $3 billion in the corresponding period of 1984 (table 4.2.7). An extrapolation of the first nine months trade trends to all of 1985 yields a western deficit of somewhat over $2 billion, down from almost $4 billion in the previous year. The change in the overall western balance reflects a reduction in *western Europe's* deficit and a slight rise in *Japan's* surplus, which were partially offset by a deterioration in *North America's* deficit.

The lower western deficit is attributable to some improvement in the trade balances *vis-à-vis* every east European country except the German Democratic Republic (table 4.2.8). Western exports to Romania picked up appreciably in the third quarter thereby reducing the deficit with that country.

During the first three quarters of 1985, the development of the west's trade balance with the *Soviet Union* was characterized by wide swings—from a surplus of almost $2 billion in the first half to a slight deficit on the basis of the first three quarters (table 4.2.7). The turnround in the third quarter derives from some buoyancy in the west's import growth and a sharp fall in its exports, mainly of grain as noted. An extrapolation of the kind described above for the entire year 1985 also yields a small western deficit. A probable downturn in western imports from the Soviet Union in the fourth quarter (due to estimated lower Soviet oil and oil product sales), however, could have pushed the western trade balance back into surplus for the year as a whole.

The improvement in the western trade balance in the first three quarters was due to a lower deficit of *western Europe* and a higher *Japanese* surplus, which more than offset a contracting *North American* surplus.

(v) Some observations on eastern exports

It may be useful at this point to set out briefly some of the factors which are likely to have been responsible for the downturn in eastern exports at a time when western import demand continued to expand. An attempt will also be made to identify those elements which are transitory and those which are likely to have a longer-term impact. The question whether the recent sluggishness of eastern exports is temporary, or whether it heralds a new period of weak export growth is crucial from the point of view of the future development of east-west trade. At this time, however, the question is very difficult to answer, because, among other things, there does not appear to be one single factor to which the difficulties can be attributed. A cursory analysis suggests several influences, the relative strength of which varies considerably between countries. Regardless of the exact origin of export difficulties, apparent adherence on the part of most eastern countries to a conservative policy toward external indebtedness renders their export earnings the major determinant of their import capacity. In turn, the magnitude and commodity composition of eastern imports will be one of the indirect determinants of future export potential, either as inputs for industry or, in the case of machinery and equipment, as carriers of embodied technology.

Recent short-term or conjunctural factors which have adversely affected eastern export performance toward the west in 1985 include what might be termed the after-effects of a dramatic east European adjustment in the early 1980s, the weather and western import demand.

The cessation of east European export growth may in part reflect a pause after a period of exceptionally rapid external adjustment *vis-à-vis* the west that required unusual efforts in the first half of the 1980s. At first this had taken the form of import reductions, but in 1983 and 1984 the adjustment took place entirely through export expansion which reached some 16 per cent in real terms in the latter year. The fact that imports from the west did not rise at that time suggests that resources normally held in reserve were also drawn upon.[416] Aside from the exceptionally high 1984 export growth rate, the export performance was also notable in that exports of all major commodities from virtually all eastern countries increased, often at double-digit rates.[417] In certain cases one-time recovery effects played a considerable role. Romania's resumption of large sales of petroleum products and steel, and Poland's regaining of its former

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[416] However, imports from the Soviet Union were stepped up.

[417] See Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985, pp. 346-348.

TABLE 4.2.7

East-west trade: trade balances, 1981-1985
(Billions of US dollars, f.o.b.-f.o.b.)

					Jan.-Sept.		
	1981	*1982*	*1983*	*1984*	*1984*	*1985*	*1985* [a]
A. *Developed market economies with*:							
Eastern Europe and the Soviet Union	2.0	−1.0	−2.2	−6.0	−4.4	−2.0	−2.5
of which:							
Eastern Europe	2.2	−0.3	−1.2	−3.7	−2.9	−1.9	−2.2
Soviet Union	−0.2	−0.7	−1.0	−2.3	−1.5	−0.1	−0.3
Western Europe with:							
Eastern Europe and the Soviet Union	−4.8	−8.4	−7.3	−11.0	−8.0	−4.9	−6.7
of which:							
Eastern Europe	0.9	−1.1	−1.6	−3.1	−2.5	−1.5	−1.6
Soviet Union	−5.7	−7.4	−5.7	−7.9	−5.5	−3.5	−5.1
North America with:							
Eastern Europe and the Soviet Union	4.3	4.4	3.0	3.6	2.6	1.6	2.2
of which:							
Eastern Europe	0.8	0.3	−0.1	−0.8	−0.5	−0.6	−0.9
Soviet Union	3.6	4.0	3.1	4.3	3.1	2.2	3.1
Japan with:							
Eastern Europe and the Soviet Union	2.4	3.1	2.1	1.4	1.0	1.4	1.9
of which:							
Eastern Europe	0.5	0.4	0.5	0.1	0.1	0.2	0.3
Soviet Union	1.9	2.7	1.6	1.3	0.9	1.2	1.7
B. *Developed market economies with*:							
Eastern Europe and the Soviet Union	3.1	−2.3	−6.3	−7.9	−5.2	−0.3	−1.1
of which:							
Eastern Europe	2.4	−1.7	−3.7	−4.7	−2.9	−2.1	−3.4
Soviet Union	0.7	−0.6	−2.5	−3.2	−2.3	1.7	2.3

Sources: As for table 4.2.1 (western data) and table 3.6.8 (eastern data).

Note: Section A is based on western data which have been adjusted to an f.o.b.-f.o.b. basis by the secretariat; section B is based on eastern national sources. A positive balance indicates a surplus for the developed market economies.

[a] Extrapolated, assuming a continuation of January-September trends of exports and imports.

TABLE 4.2.8

East-west trade: trade balances, by eastern country, 1981-1985
(Billions of US dollars)

					Jan.-Sept.		
	1981	*1982*	*1983*	*1984*	*1984*	*1985*	*1985* [a]
Developed market economies with:							
Bulgaria	1.03	0.75	0.90	0.78	0.6	0.8	1.0
Czechoslovakia	−0.32	−0.33	−0.56	−0.74	−0.7	−0.5	−0.5
German Democratic Republic	0.12	−0.68	−0.32	−0.87	−0.5	−0.6	−0.9
Hungary	0.85	0.72	0.36	0.08	−0.1	0.3	0.4
Poland	0.86	0.01	−0.27	−0.77	−0.7	−0.4	−0.4
Romania	−0.36	−0.80	−1.37	−2.21	−1.6	−1.4	−1.9
Eastern Europe	2.18	−0.34	−1.27	−3.74	−2.9	−1.9	−2.2
Soviet Union	−0.23	−0.65	−1.00	−2.30	−1.5	−0.1	−0.3
Eastern Europe and the Soviet Union	1.95	−1.00	−2.22	−6.04	−4.4	−2.0	−2.5

Source: As for table 4.2.1.

[a] Extrapolated on the basis of January-September data for exports and imports.

coal market serve as examples. Overall, the magnitude and commodity pattern of this development gives the impression that exceptional but perhaps unsustainable efforts to export were being made in those two years.

Exceptionally cold winter conditions in the first quarter of 1985 had a deleterious effect on production, transport, domestic consumption of fuels and exports. Although fuel exports seem to have been the primary casualty, deliveries of other commodities were also reported to have been negatively affected. In the case of the Soviet Union, exports of crude oil, oil products and natural gas to the west were down sharply. Reduced Soviet deliveries, including fuels, to several east European countries contributed to their tightness of their own domestic supply situations. Accordingly, some east European countries resorted to the expedient of consuming oil from the

Middle East which had been slated for re-export to the west, and, moreover, sharply stepped up imports of coal and petroleum products from the west for their own use. As the year progressed, drought affected the economies of Bulgaria, Romania, and to a lesser extent, Hungary (mainly agriculture). Energy shortages stemming from subnormal hydro-electricity production constrained industrial output. Agricultural output was also adversely affected. The latter not only has led to reduced exports in the current market year (July 1985 to June 1986), but in some instances also in the previous one.

In real terms, western import demand slowed sharply from a rate of 11 per cent in 1984 to 6 per cent in the first three quarters of 1985. Import growth into western Europe, the most important market for the east, remained unchanged at 6 per cent for corresponding periods. However, North American imports growth decelerated sharply from 23 per cent in 1984 to 6 per cent in the first three quarters of 1985. While the United States takes only a small percentage of total western imports from the east, its high growth rates in 1983 and 1984 had accounted for a substantial share of the increment in western imports from the east (about one fourth in 1984). Total US imports virtually stagnated in the the second and third quarters of 1985, which may explain in part the stagnation in US imports from the east. However, lower east European exports of oil products is another, perhaps equally important, factor.

Several long-term factors—particularly natural resource constraints but also the declining performance of eastern manufactured goods exports and the external adjustment of eastern Europe *vis-à-vis* the Soviet Union—appear to have been more significant. For a variety of reasons, certain natural resource-based sectors in the east have been subject to increasing costs which have tended to constrain output and exports. The decline in the Soviet Union's production of oil is the most notable example, but other sectors such as coal have also been affected in some countries. Declining world prices of certain commodities would tend to aggravate the problem, since the volume of goods which would remain financially advantageous to export could be reduced.

Data for 1985 show a continuation of the decline in the east's market share in western imports of manufactures. It reflects a generalized loss of market shares by exporting country and by product, including semi-manufactures—commodities in which in earlier years the east's market share had been holding up. The overall decline of performance in the manufactured goods sectors has been a long-term development, often attributed to a variety of causes including structural rigidities, inadequate marketing and product quality, aging of the industrial capital stock, unfullfilment of plans in the engineering goods industries, western policies and, especially, the intensification of competition in world market with the emergence of the NICs.[418]

Eastern exports to the west continued to encounter restrictions of various kinds in a commercial policy climate which was characterized by increasing protectionist pressures. Although these pressures were for the most part resisted—in the sense that new restrictive measures did not exceed by much those taken in the direction of liberalization—there was a certain increase in the number of antidumping actions taken and no significant reduction in existing barriers. It should be added that a considerable share of eastern production capacity is concentrated in commodity groups plagued by weak demand and also frequently by excess capacity in the west. To make matters worse for eastern exporters, these are often also the sectors most affected by protective barriers (e.g., iron and steel, textiles, clothing, leather goods, agriculture, etc.).

Since the mid-1970s, the countries of eastern Europe have been undergoing a process of external adjustment *vis-à-vis* the Soviet Union in response to a deterioration in their terms of trade. The pace of this adjustment appears to have varied. It has generally involved a more rapid expansion of east European exports to the Soviet Union than of east European imports from that country, leading to tighter constraints on the resources available for domestic production and exports to other countries. In 1983 and 1984, east European export volumes to the Soviet Union continued to expand steadily. Importantly, however, imports from the Soviet Union accelerated,[419] presumably loosening supply constraints. This may have facilitated the boom in east European exports to the west in 1983-1984. In 1985, east European exports to the Soviet Union continued to expand (Hungary and Romania's exports accelerated sharply) but, in contrast to the previous two years, east European imports slowed considerably, thereby possibly tightening constraints on resources and export capacity.[420]

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[418] Since 1980, the east's share of the western market for manufactures eroded from 2.5 to 1.9 per cent, a change which in 1985 represented an annual loss of $4-5 billion. This amount is roughly equivalent to the annual revenues which the Soviet Union derives from the export of natural gas to western Europe.

[419] See United Nations, Economic Commission for Europe, *Economic Survey of Europe in 1984-1985*, New York, 1985, pp.194-195.

[420] See section 3.6.

TABLE 4.2.9

Western imports from eastern Europe, the Soviet Union and the world, by commodity: growth of trade value, January-September 1985 [a]

(*Percentage change*)

Origin *Product*	*Bulgaria*	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Eastern Europe*	*Soviet Union*	*World*
Total	−7	−5	−1	−2	−1	−12	−3	−11	−3
Primary products	4	−5	−5	−2	4	−15	−2	−18	−7
Food	3	−4	3	−3	20	−8	4	−10	−6
Raw materials	15	−4	−3	−3	−10	−3	−5	−18	−8
Ores and minerals	40	−9	−11	20	6	−43	5	2	−6
Non-ferrous metals	−28	−16	−11	−8	−6	−30	−12	−30	−10
Fuels	57	−8	−5	–	−1	−1	−3	−9	−6
Coal	88	−15	−1	−52	2	−100	−1	34	1
Petroleum and products	59	−5	−6	−4	−13	−1	−4	−14	−8
Gas	−15	7	583	107	b	..	57	28	–
Electricity	..	−18	..	..	−42	..	−38	−6	5
Manufactures	−26	−5	2	−3	−6	−14	−4	−5	–
Semi-manufactures	−47	−7	2	3	−11	−38	−9	−8	−2
Iron and steel	−63	−14	13	−33	−23	−61	−23	3	−3

TABLE 4.2.9 (*continued*)

Origin *Product*	*Bulgaria*	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Eastern Europe*	*Soviet Union*	*World*
Chemicals	−3	1	−3	20	−6	−20	−1	−9	−1
Other semi-manufacturing	−14	−9	–	−2	1	−1	−4	−8	−6
Engineering products	14	3	4	5	−15	6	–	4	3
Machinery	34	17	..	10	−3	−1	8	17	2
Office and telecom. equipment	33	49	..	−41	6	−74	−19	13	6
Road vehicles	−57	−14	..	23	25	180	16	−1	5
Other machinery	−8	−2	..	8	−23	−35	−13	3	–
Consumer goods	−2	−6	2	−10	6	−3	−2	−3	−3
Household appliances	−47	−16	−9	−16	−1	19	−7	−3	−6
Textiles	46	−3	8	−8	2	−5	2	−6	−1
Clothing	−4	−16	5	−10	3	−4	−4	2	−4
Other consumer goods	−7	−1	−3	−9	11	−3	−2	−3	−3

Source: United Nations Statistical Office, COMTRADE, Quarterly trade data, "Series D".

Note: In contrast to data used for tables 4.2.1 and 4.2.3, the coverage in tables 4.2.9 and 4.2.10 is reduced to countries for which commodity data were available for the first three quarters of 1985 and the same period in 1984: Austria, Denmark, Finland, France, Federal Republic of Germany, Greece, Netherlands, Norway, Sweden, Switzerland, Canada, and Japan. Growth rates based upon this sample of 15 countries differ from those given in table 4.2.1 and 4.2.3 because of differences in country coverage.

Commodity groups in terms of SITC categories, based on the Standard International Trade Classification, Revised (United Nations *Statistical Papers*, Series M, No. 34):

Primary products
- Food (sections 0, 1, and 4 and division 22)
- Raw materials (section 2, excluding divisions 22, 27 and 28)
- Ores and other minerals (divisions 27 and 28)
- Non-ferrous metals (division 68)

Fuels (section 3)
- Coal (division 32)
- Petroleum and petroleum products (division 33)
- Gas (division 34)
- Electricity (division 35)

Manufactures
- Semi-manufactures
  - Iron and steel (division 67)
  - Chemicals (section 5 and groups 862 and 863)
  - Other semi-manufactures (divisions 61, 62, 63, 64 and 66 excluding groups 665 and 666)
- Engineering products
  - Machinery for specialized industries (groups 712, 715, 717, 718 and 719 excluding sub-group 719.4)
  - Office and telecommunications equipment and parts, including computers; (group 714 plus sub-groups 724.9 and 729.3)
  - Road motor vehicles (group 732)
  - Other machinery and transport equipment (divisions 69 excluding group 696 and 697; 73 excluding group 732, groups 711, 722, 723, 726, 729 excluding sub-groups 729.3 and 861 excluding sub-groups 861.4 and 961.4)
- Consumer goods
  - Household appliances (groups 696, 697, 725, 864, sub-groups 719.4, 724.1, 724.2, 861.4, 861.6 and 891.1)
  - Textiles (division 65)
  - Clothing (division 84)
  - Other consumer goods (groups 665 and 666, section 8, less divisions 84 and 86 plus sub-group 891.1)

[a] Relative to same period in previous year.

[b] Indicates change in excess of one thousand per cent.

TABLE 4.2.10

Western exports to eastern Europe, the Soviet Union and the World, by commodity: growth of trade value, January-September 1985 [a]

(*Percentage change*)

Origin *Product*	*Bulgaria*	*Czecho-slovakia*	*German Democratic Republic*	*Hungary*	*Poland*	*Romania*	*Eastern Europe*	*Soviet Union*	*World*
Total	18	−1	2	11	7	−3	5	−7	−1
Primary products	55	−16	−20	−11	−8	−9	−12	−23	−8
Food	132	−19	−29	−33	−7	12	−18	−21	−7
Raw materials	40	−18	5	−1	−13	−26	−6	−26	−6
Ores and minerals	−7	1	−23	10	−9	−6	−10	29	–
Non-ferrous metals	13	−14	–	3	−4	−10	−1	−46	−17
Fuels	118	10	89	263	−23	9	73	−10	−12
Coal	162	b	b	b	b	19	213	b	−2
Petroleum and products	60	9	33	181	−31	−40	36	−18	−10
Gas	103	−99	−41	152	..	−100	−91	50	−25
Electricity	..	..	..	..	..	..	..	68	−2
Manufactures	15	3	2	9	15	−5	7	−2	2
Semi-manufactures	10	−2	−1	2	10	4	3	10	–
Iron and steel	−1	−10	−12	10	25	−5	−3	12	1
Chemicals	13	−3	8	−3	8	6	4	16	–
Other semi-manufacturing	15	12	−13	13	4	10	9	−4	−2
Engineering products	22	5	−3	21	22	−24	10	−10	3
Machinery	26	4	..	25	27	−19	12	−13	3
Office and telecom. equipment	47	22	..	7	18	−35	7	−22	6
Road vehicles	44	−2	..	20	23	−32	8	22	7
Other machinery	8	5	..	19	13	−22	–	−9	−3
Consumer goods	1	11	24	7	7	–	11	4	2
Household supplies	−7	8	24	22	62	27	17	51	2
Textiles	−6	8	8	−4	4	3	2	−20	−1
Clothing	−8	12	62	6	9	−9	18	29	4
Other consumer goods	22	17	−12	34	–	−14	14	19	3

[a] Relative to same period in previous year. [b] Indicates change in excess of one thousand per cent.

4.3 EAST-WEST FINANCIAL DEVELOPMENTS[421]

The eastern surplus on current account with all market economies narrowed sharply in 1985, that of the Soviet Union swinging into a small deficit. The east's credit takings reached record levels. Eastern Europe largely utilized these funds to boost assets, improve term structures and pay off debt maturities, and ne debt rose exclusively because of exchange rate realignments. This was also responsible for most of the rise in Soviet debt, but borrowing to finance the current account deficit contributed. The eastern current account balance with market economies is treated in subsection (i). East-west financial developments, including changes in eastern assets, credit market activity, and changes in the eastern liabilities with western banks are dealt with in subsection (ii). Eastern debt and some measures of debt burden are reviewed in subsection (iii).

(i) Eastern current account surplus narrows

In 1985, relatively buoyant *east European* imports from the market economies combined with a downturn in exports to the same group to cause a small contraction in eastern Europe's *current account surplus in convertible currencies*[422] from the $3 billion recorded in 1984 (table 4.3.1).

Extrapolation of the changes in the trade flows in the first three quarters to the end of the year yields a *fall* in eastern Europe's trade balance with the market economies of over $1 billion. But this was partially offset by a lower deficit on invisibles, owing in part to reduced net interest payments. The average interest rates on the east's floating rate debt fell by about 1 percentage point thereby lowering outflows. Inflows stemming from deposits increased. Except for the German Democratic Republic and Romania, all other east European countries appear to have experienced some deterioration in their current accounts.

The *Soviet Union* recorded a more dramatic change in its current account largely owing to the sharp drop in its exports to the market economies. Though full year results are not yet available, a small trade and current account deficit is likely to have emerged in 1985, as compared with a current account surplus of over $6 billion in the previous year.

(ii) Quickening pace of financing

The volume of medium- and long-term funds raised by eastern Europe and the Soviet Union rose significantly in 1985, reaching a level of $5.2 billion. The previous record, established in 1979, was exceeded. Taken together with other indicators—a further widening in the range of eastern borrowers, appreciably improved credit terms, and some diversification in currencies in which loans are denominated—this represents a normalization in credit market relations for most of the countries involved.

Assets continue to mount

Along with the surge in its credit takings, eastern Europe's continued accretion of assets was one of the salient features of east-west financial developments in 1985.[423] In fact, the developments are closely related: a considerable share of eastern borrowing appears to have been undertaken for the purpose of further improving reserve positions.[424] These trends in eastern Europe's aggregate asset position seem to reflect resolute policies pursued despite the set-backs in external balances earlier in 1985.

The continuing build-up of *east European* asset positions *vis-à-vis* BIS reporting banks had begun in the second half of 1982 (tables 4.3.2 and 4.3.3). It represents a correction to the sharp depletion of reserves—they fell to some $4 billion in the first half of 1982—which eastern Europe had experienced in the throes of a liquidity crisis. Subsequently eastern Europe's assets climbed by some $8 billion (to end-September 1985), nearly $2 billion of which was added in the first three quarters of 1985. Most countries' deposits exceeded past levels, generally by large margins. The German Democratic Republic, whose assets now stand at near $6 billion, accounted for about $4 billion of the 1983-1985 increment and Hungary for nearly $2 billion. Hungarian assets, at $2.5 billion (end-September), are now second only to those of

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[421] Subsection 4.1(ii) treats certain aspects of east-west financial developments in a global context.

[422] As an *approximation* to the trade balance component of the eastern convertible currency current account, *eastern data* on the trade balance with *developed and developing market economies* are used here. Beyond the west, as the term is defined in this section, this group also includes the developed countries of the southern hemisphere and the developing countries, most of which conduct trade on a convertible currency basis. The trade balance data shown thus on the one hand include balances on clearing accounts (of which, in general, very little is known especially for the current year), and on the other exclude balances of convertible currency transaction among the socialist countries. These are important for some east European countries.

Only Hungary, Poland, Romania publish current account data in terms of all convertible-currency transactions (in million US dollars):

	Hungary		*Poland*		*Romania*	
	Current account balance	*Of which: trade balance*	*Current account balance* [a]	*Of which: trade balance*	*Current account balance*	*Of which: trade balance*
1982.......	−63	766	−1 016	358	655	1 525
1983.......	316	884	62	1 086	922	1 688
1984.......	340	1 237	787	1 456	1 536	2 186
1985.......	−457	295	322	1 174	490 [b]	792 [b]

Sources: National Bank of Hungary, *Economic Bulletin* and direct communication with the ECE secretariat; Central Statistical Office, *Rocznik statystyczny*, Warsaw and *Zycie gospodarcze*, 2 March 1986, p. 2; Romania: national sources.

[a] Excludes interest arrears on official and guaranteed debt

[b] First half 1985.

[423] In the first three quarters of 1985, valuation changes due to the depreciation of the US dollar *vis-à-vis* other currencies tended to *raise* the US dollar value of eastern assets and liabilities compared with the increase at constant exchange rates.

[424] This build-up in deposits contrasts with the small draw-down in the first quarter. East European assets typically decline in the first quarter of the year due to the seasonal pattern of trade. In that period in 1985, however, assets may also have been drawn upon in response to the unfavourable development of trade described in section 4.2.

TABLE 4.3.1

Estimated current account balance of payments of eastern Europe and the Soviet Union with market economies, 1981-1985

(Billions of US dollars)

	Trade balances [a] with market economies		*Net services plus transfers [b]*		
	Total	*Of this: DME [c]*	*Total*	*Investment income*	*Current account*
Bulgaria					
1981	0.7	−0.6	−0.1	−0.3	0.6
1982	0.7	−0.5	–	−0.3	0.7
1983	0.3	−0.4	0.1	−0.2	0.4
1984	0.6	−0.4	0.1	−0.1	0.7
1985 [d]	−0.1	−0.7	0.2	−0.1	0.1
Czechoslovakia					
1981	0.3	−0.3	−0.4	−0.4	−0.1
1982	0.4	−0.1	−0.3	−0.4	0.1
1983	0.8	0.1	−0.2	−0.3	0.5
1984	0.9	0.4	−0.2	−0.2	0.7
1985 [d]	0.7	0.3	−0.1	−0.2	0.5
German Dem. Rep.					
1981	–	−0.5	−0.6	−1.7	−0.4
1982	1.5	0.7	−0.2	−1.4	1.2
1983	1.3	0.9	0.2	−0.9	1.5
1984	1.0	0.7	0.4	−0.8	1.4
1985 [d]	1.8	1.7	0.5	−0.6	2.3
Hungary [a, e]					
1981	−0.8	−1.0	−1.2	−1.1	−1.9
1982	−0.3	−0.6	−0.8	−1.0	−1.2
1983	−0.1	–	0.6	−0.7	−0.6
1984	0.1	0.2	−0.9	−0.7	−0.8
1985 [d]	−0.2	−0.7	−0.7	−0.7	−0.9
Poland [e]					
1981	–	−0.5	−2.1	−2.9	−2.1
1982	1.5	0.6	−2.7	−3.0	−1.1
1983	1.4	0.9	−2.4	−2.9	−1.0
1984	1.5	1.1	−2.1	−2.5	−0.6
1985 [d]	0.9	0.6	−1.8	−2.5	−0.9
Romania [e]					
1981	0.2	0.5	−1.0	−1.0	−0.8
1982	1.4	1.4	−0.9	−1.0	0.5
1983	2.3	2.3	−0.8	−0.7	1.5
1984	2.1	2.6	−0.7	−0.7	1.4
1985 [d]	2.0	2.2	−0.6	−0.6	1.5
Eastern Europe					
1980	−4.2	−3.2	−4.0	−5.4	−8.2
1981	0.4	−2.4	−5.4	−7.5	−5.0
1982	5.2	1.7	−5.0	−7.0	0.2
1983	6.1	3.7	−3.7	−5.7	2.4
1984	6.2	4.7	−3.3	−5.1	3.0
1985 [d]	5.0	3.4	−2.5	−4.7	2.6
Soviet Union					
1981	−0.7	−0.7	−0.9	−1.9	−1.7
1982	4.3	0.6	−0.8	−1.9	3.5
1983	6.2	2.5	−0.3	−1.5	5.9
1984	6.7	3.2	−0.1	−1.3	6.6
1985 [d]	−0.9	−2.3	−0.1	−1.3	−1.0
Eastern Europe and the Soviet Union [f]					
1980	−0.8	−0.8	−5.2	−7.5	−5.9
1981	−0.3	−3.1	−7.0	−10.0	−7.2
1982	9.5	2.3	−6.2	−9.3	3.3
1983	12.3	6.3	−4.4	−7.5	7.9
1984	13.0	7.9	−3.7	−6.7	9.3
1985 [d]	4.2	1.1	−2.9	−6.3	1.3

Sources: National sources and ECE secretariat estimates for trade balances. ECE secretariat estimates for net services and investment income except as noted.

Note: A positive balance indicates a surplus for the eastern economies

[a] Trade balance f.o.b.-f.o.b., except for Hungarian imports which are shown c.i.f. in the national returns

[b] Invisibles balances are ECE secretariat estimates, except in the cases of Hungary, Poland and Romania, 1981-1984. Data for these three countries include all interest incurred in convertible currencies. The invisibles data for Poland include convertible currency transfers from socialist countries of $328 million in 1981. Polish and Romanian official data have been adjusted to include interest arrears in the years in which they were incurred, to conform to IMF *Balance of Payments Manual* recommendations

Investment income (inflows) for the other eastern countries reflect only estimates of interest earned on assets at BIS reporting banks.

[c] Developed market economies (see definition in footnote at beginning of section 4.2).

[d] Calculation of trade balances for 1985 as described in footnote a, table 4.2.7.

[e] See also the footnote at the beginning of this section on national data covering all convertible currency transactions.

[f] Includes estimated investment income deficit of the CMEA banks.

TABLE 4.3.2

Eastern Europe and the Soviet Union: assets held at BIS reporting banks and liquidity ratios (end-of-period), 1982-1985

	Assets (billions of US dollars)				*Liquidity ratios (per cent)* [a]			
	1982	*1983* [b]	*1984*	*1985* [c]	*1982*	*1983* [b]	*1984*	*1985* [c]
Bulgaria	1.0	1.2	1.4	1.9	35.2	45.0	53.4	57.5
Czechoslovakia	0.7	0.9	1.0	1.0	16.8	22.8	25.7	25.1
German Democratic Republic	1.9	3.4	4.5	5.9	27.5	44.3	55.9	77.3
Hungary	0.7	1.3	1.5	2.5	16.5	29.9	37.2	62.3
Poland	1.0	1.2	1.5	1.7	24.2	30.5	35.8	36.2
Romania	0.3	0.5	0.6	0.3	6.2	11.1	15.0	6.4
Eastern Europe	5.6	8.6	10.7	13.3	20.5	31.9	39.0	47.0
Soviet Union	10.0	11.0	11.3	11.1	25.6	28.8	31.0	29.8
Eastern Europe and the Soviet Union	16.4	19.7	22.1	24.5	24.8	30.1	34.6	43.2

Source: ECE secretariat estimates; BIS, *International Banking Developments* (quarterly).

[a] Assets as percentage of imports of merchandise from all market economies.

[b] New series starting 1983.

[c] September.

TABLE 4.3.3

Changes in the assets and liabilities of eastern Europe and the Soviet Union at the BIS reporting banks, by country, [a] 1982-1985 [b]

(Billions of US dollars)

	Liabilities				*Assets*				*Net liabilities* [c]			
	1982	*1983*	*1984*	*1985*	*1982*	*1983*	*1984*	*1985*	*1982*	*1983*	*1984*	*1985*
Bulgaria	–	−0.3	–	0.6	0.2	0.1	0.4	0.3	−0.2	−0.4	−0.4	0.3
Czechoslovakia	−0.3	−0.1	−0.1	−0.1	−0.3	0.2	0.2	–	−0.1	−0.3	−0.3	−0.1
German Democratic Republic	−1.1	−0.2	0.6	0.3	−0.2	1.5	1.5	1.0	−0.9	−1.7	−1.0	−0.7
Hungary	−0.8	0.5	0.3	0.9	−0.2	0.6	0.3	0.8	−0.6	−0.1	–	0.1
Poland	−0.6	−2.3	−1.6	−0.3	0.3	0.2	0.4	–	−0.9	−2.4	−2.1	−0.3
Romania	−0.5	−0.3	−0.5	−0.3	–	0.2	0.2	−0.3	−0.5	−0.5	−0.7	–
Eastern Europe	−3.3	−2.7	−1.4	1.1	−0.1	2.7	3.1	1.8	−3.2	−5.4	−4.4	−0.6
Eastern Europe (excl. Poland)	−2.7	−0.4	0.3	1.4	−0.4	2.6	2.7	1.8	−2.3	−3.0	−2.3	−0.3
Soviet Union [d]	−0.9	1.5	1.7	2.8	2.0	–	1.4	−0.9	−2.9	1.5	0.3	3.7
Residual	−0.3	−0.1	−0.3	–	0.1	0.2	−0.1	–	−0.5	−0.3	−0.2	–
Total [e]	−4.6	−1.3	–	4.0	2.0	2.9	4.3	0.9	−6.6	−4.2	−4.3	3.1

Source: Bank for International Settlements, *International Banking Developments — quarterly reports*, Basle, various issues.

[a] Country data are ECE secretariat estimates using the BIS-reported changes in total eastern assets and liabilities at constant exchange rates and distributing them, by country, on the assumptions that each country's assets and liabilities reflect the same currency structure as the totals.

[b] End-September 1985 relative to end-December 1984.

[c] Net liabilities: a negative sign indicates a decline in eastern net liabilities and a net transfer of resources to the west.

[d] Include positions of CMEA banks.

[e] Total also includes Albania and the "residual".

the German Democratic Republic.[425, 426] On the other hand, Romania reduced its deposits to low levels in 1985. This contrasts with the relatively favourable asset position (by Romanian historical standards) which had been achieved in the previous year.[427] It might be noted that low reserves and an unfavourable liquidity position, along with a bunching of maturities coming due, were the primary causes which drove Romania into debt rescheduling in 1981.

For eastern Europe as a whole, the ratio of assets to imports from market economies (liquidity ratio) approached 50 per cent, implying that assets covered almost six months' of imports (goods only) from market economies. Taking three months' import coverage as the normal requirement, the ratios were favourable for most countries, Romania being the only exception (table 4.3.2).

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[425] Dr. M. Timár, governor of the National Bank of Hungary, indicated that the chief aim of fresh borrowing in 1985 was to build up reserves further and to improve the structure of the debt by obtaining longer maturities. *Financial Times*, 19 June 1985.

[426] Both Hungary and Romania regularly report their international reserve positions in convertible currencies. Hungary also reports a broader aggregate which includes other short- and long-term assets.

	Hungary		
	International reserves plus other assets [a]	*Of which: international reserves* [a]	*Romania, international reserves* [b]
1982	2.8	1.2	0.6
1983	3.7	1.9	0.7
1984	4.8	2.6	0.8
1985	6.7	3.5	0.7 [c]

Sources: National Bank of Hungary, *Quarterly Review*; IMF, *International Financial Statistic*

[a] Includes gold valued at US $226/ounce (national valuation)

[b] Includes gold valued at SDR 35 per ounce.

[c] End-September

[427] Reserves were run down during the first half of 1985 owing to Romania's unusually heavy debt servicing obligations. However some reconstitution of reserves occurred during the third quarter. Apparently at least part of a $150 million bank loan negotiated at the end of 1985 was intended to boost reserves.

The Soviet Union's asset position appears to have developed according to the established seasonal pattern. Deposits were run down in the first quarter of 1985 by almost $3 billion (probably in large part to finance the current account deficit), but rose in the two subsequent quarters, reaching some $11 billion. At constant exchange rates, however, they are still below the level of end-December 1985. This pattern of reserve accretion, despite a weakness in export earnings, suggests that high importance is attached to the maintenance of an adequate asset position. If the typical seasonal pattern continues to hold, deposits will have risen again at the end of the year.

Eastern publicized credits at record level

The growth of the volume of medium- and long-term funds raised by eastern Europe and the Soviet Union gained momentum in 1985, reaching a level of $5.2 billion by the end of the year (table 4.3.4). In the process, the previous record established in 1979 was exceeded.[428] Borrowing was highly concentrated on Hungary, the German Democratic Republic and the Soviet Union, which together accounted for about 80 per cent of the funds raised. Hungary was again the most active CMEA borrower. In its first major borrowing since 1979, Bulgaria took up three credits totalling $475 million, while Czechoslovakia, which was not in the market in 1984, acquired over $100 million. Romania raised its first publicized medium-term loan ($150 million) since its 1982-1983 rescheduling, mainly from the banks involved in that exercise. The Soviet Union's most recent credit involved a $400 million facility arranged by United States banks with the participation of a London subsidiary of a Canadian bank. The credit, which is intended to finance grain purchases from North America, comprises a bankers acceptance facility and funds on an underwritten basis. Despite the concentration of funds raised, there was a marked widening of the range of borrowers.

Owing to its continuing financial difficulties, Poland has not had access to the syndicated loan markets, although it appears to have received some supplier credits.[429]

As 1985 progressed, all eastern countries in the market except Romania managed to obtain better terms. Margins declined, often to one quarter or three eights percentage points, and maturities of seven to eight years were generally available. Borrowing was also characterized by diversification into credits denominated in Yen and ECU.

Western banks' willingness to increase lending and offer better terms in 1985 reflected eastern Europe's generally improved external financial position and the continuing competition among international banks in a liquid market for the business of creditworthy borrowers. Western banks have found lending to the east relatively profitable owing to these countries' preference for conventional syndicated loans. By contrast, much of international lending activity has been concentrated in the Euronote market where the returns to banks have been less attractive.[430] On the whole, the supply of funds available to the east seems to have exceeded demand—an interpretation suggested by the frequent oversubscription of credits.

One notable feature of east-west financial activity in 1985 was the heightened involvement of United States' banks. After a near withdrawal from lending, they led international consortia of banks in arranging loans to several east European countries in 1985.

In early 1986 the volume of publicized credits in the stage of negotiation appears to have declined compared with both the last quarter of 1985 and the same period in the previous year. Only $248 million was raised in January 1986, all by Hungary (table 4.3.4).[431] Other not yet recorded credits involve $100 million for the International Bank for Economic Cooperation (IBEC) in the first half of February 1986. The Soviet Union's foreign trade bank was negotiating a $200 million credit (for 8 years at 1/4 point over LIBOR). At the close of 1985, Romania was seeking an additional $150 million, but it does not appear that agreement with banks had been reached. Overall the slowdown in credit takings appears due to a curtailment of eastern demand for funds rather than to a stiffening of credit terms on the part of lenders.

The determinants of eastern demand for credit are not fully known, but they seem to vary from country to country. Several objectives can be discerned. First, a further improvement in asset positions appears to have been the aim of several countries, judging from official pronouncements and from the increase in deposits in the first three quarters of 1985. Second, an amelioration of the maturity structure of liabilities has also been mentioned in official announcements (e.g., Hungary, as noted).[432] Third, loans at the improved terms have been used to pre-pay higher cost credits obtained when eastern access to the market was constrained. Fourth, in several cases new credits have been used to pay off maturing debt. Finally, increased east European borrowing has been reflected in the higher undisbursed credit commitments of banks to these countries. From a nadir of some $2.2 billion in end-1983, undisbursed credit commitments to eastern Europe rose progressively to almost $3.4 at end-June 1985. Commitments of BIS banks to all east European countries climbed, with especially large increases towards the German Democratic Republic and Hungary. While these figures are still considerably below those recorded around the turn of the decade (by some $8 billion), they do reflect relatively favourable positions for all countries except Poland and Romania.[433]

Given the nature of much of the borrowing in 1985, it would not necessarily be expected to lead to any appreciable increase in net liabilities. In fact, east European net liabilities actually declined (see below), which is consistent with pronouncements by the authorities of several eastern countries concerning the reduction of debt.[434]

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[428] This level was attained in 1985 without the participation of Poland, which had been one of the largest eastern borrowers in 1979, accounting for almost $900 million of the $4.7 billion raised in that year.

[429] Ninety-five per cent of Poland's commercial bank debt falling due in the period 1984-1987 was rescheduled in a multi-year arrangement concluded with western banks in 1984. As part of that agreement new credits totalling $700 million were to be made available by commercial banks in 1984-1985, particularly through the recycling of interest payments.

[430] See section 4.1(ii) on this point.

[431] In contrast to this sluggish pace, over $500 million in publicized credits had been recorded in January of 1985.

[432] According to BIS data, the German Democratic Republic and Hungary, two of the major borrowers, improved the maturity structure of their liabilities in the first half of 1985 by raising the share coming due in two years or later. For other countries, the share of maturities coming due in less than one year tended to increase.

[433] Before the onset of their financial difficulties, these two countries together often accounted for over 60 per cent of the credit commitments of banks to eastern Europe. At end-June 1985 commitments to them accounted to only $600 million, or about 15 per cent of the east European total.

[434] References to statements to this effect by the authorities of Czechoslovakia, Hungary and Romania were made in past issues of the *Economic Bulletin for Europe* and *The Economic Survey of Europe*.

TABLE 4.3.4

Medium- and long-term funds raised by eastern Europe and the Soviet Union on the international financial markets, 1981-1985
(In millions of US dollars)

	1981	*1982*	*1983*	*1984*	*1985*	*Jan. 1986*
Bulgaria	–	–	–	–	475	–
Czechoslovakia	30	–	50	–	122	–
German Democratic Republic	516	69	386	936	1 173	–
Hungary	591	483	567	1 166	1 578	248
Poland	–	–	–	260	–	–
Romania	337	–	–	–	150	–
Eastern Europe	1 474	552	1 003	2 362	3 498	248
Soviet Union	25	153	68	867	1 489	–
CMEA Banks	100	–	–	140	250	–
Eastern Europe and the Soviet Union	1 600	704	1 071	3 369	5 236	248
of which:						
Bank loans [a]	1 528	550	889	2 676	4 200	–
Other [b]	–	142	72	295	250	–
Foreign bank loans [c]	21	13	111	358	339	148
Bonds	..	–	–	41	447	100

Source: OECD, *Financial Statistics Monthly*, Part I, Paris, February 1986.

[a] International bank loans in Eurocurrencies, excluding offically guaranteed loans and rescheduling of debt.

[b] Other bank facilities, including bankers' acceptances.

[c] In domestic currency of lending countries, excluding guaranteed loans.

Eastern liabilities vis-à-vis *BIS reporting banks rose moderately* [435]

The upward trend in western banks' lending to *eastern Europe* (excluding Poland) [436] since 1983 has led to only small increases in these countries' liabilities at BIS reporting banks (table 4.3.3). At constant exchange rates, east European liabilities barely increased in 1984, despite new publicized medium- and long-term credits of well over $2 billion. Similarly, in the first three quarters of 1985 syndicated credits of some $3.5 billion led to an increase of only $1.4 billion in liabilities. These results tend to confirm the view presented above that the objective of much new borrowing has not been the financing of near-term import expansion.

As regards individual eastern countries, those whose publicized medium- and long-term credit takings were the largest in 1984 and the first three quarters of 1985 (i.e., the German Democratic Republic and Hungary) also raised their liabilities *vis-à-vis* BIS reporting banks. However, even for these countries, *net liabilties* at BIS reporting banks declined or stagnated, as did those of the remaining countries, thereby pointing to the apparent importance of the asset-building motive already discussed. Bulgaria was an exception: its liabilities rose in excess of syndicated borrowing and its net debt increased.

As regards the *Soviet Union*, its liabilities *vis-à-vis* BIS reporting banks rose by some $2.8 billion in the first three quarters of 1985 (there were additions only in the second and third quarter). This suggests borrowing to finance its trade deficit of the first half. However, these additional funds were also likely to have been used to partially reconstitute deposits in the same two quarters. [437] In fact, the Soviet Union accrued assets in excess of the increases in liabilities in the third quarter, thereby lowering its net debt in that period. Nevertheless its net debt rose by $3.7 billion (at constant exchange rates) in the first three quarters combined (table 4.3.3).

In July 1985 Poland and official western creditors (the Paris Club) reached an agreement on the rescheduling of $11-12 billion of unpaid interest and principal from 1982-1984. Another agreement on the rescheduling of $1.4 billion falling due in 1985 was signed in November. Although Poland has managed to continue servicing its obligations to western commercial banks, in December it failed to meet a payment of $550 to western government creditors. The short-fall in its trade surplus in 1985 appears to have contributed to this. [438]

(iii) Total eastern liabilities in convertible currencies

After several years of decline, the external indebtedness of eastern Europe and the Soviet Union in convertible currencies is estimated to have risen in 1985 (table 4.3.5). Data for mid-1985, based upon national sources and the BIS/OECD reporting system, show an increase of over $1 billion in *eastern Europe's gross debt*. However, its *net* indebtedness (defined

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[435] In contrast to the previous subsection which focused on new lending, the following deals with eastern liabilities (and changes) *vis-à-vis* BIS reporting banks. The coverage of this series is broader in some respects than that of medium-term funds raised in international financial markets in table 4.3.4. The BIS data also cover direct bank-to-bank lending (including, importantly, short-term credits and guaranteed loans, for neither of which separate statistics are available). On the other hand, not all syndicated lending is reflected in the BIS data, e.g., that part which is held as assets outside the banking system or by banks outside the BIS reporting area (e.g. banks in Arab countries, etc.) is not covered.

[436] The reasons for considering separately an aggregate of eastern Europe excluding Poland at this time have been discussed previously in Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 36, No. 4, Pergamon Press for the United Nations, December 1984. Very briefly, it is felt that the BIS data are likely to overstate the reduction in Poland's liabilities because of the treatment by banks of maturities (commercial and guaranteed) which have come due but have not been settled by the borrower.

[437] The Soviet Union also recorded a trade surplus in the third quarter, as noted.

[438] New credits from the Paris Club members have remained an issue between the two sides, with only Austria and the Federal Republic of Germany having extended new credit lines.

TABLE 4.3.5

Estimated convertible currency debt of eastern Europe and the Soviet Union, 1982-1985, end-of-year
(Billions of US dollars)

	Gross debt			
	1982	*1983*	*1984*	*1985 end-June*
Bulgaria	2.9	2.4	2.1	2.3
Czechoslovakia	3.7	3.5	3.1	3.0
German Democratic Republic	12.6	11.7	11.5	11.6
Hungary	7.7	8.3	8.8	9.7
Poland [a]	26.2	26.4	26.8	27.4
Romania	9.8	8.9	7.2	6.7
Eastern Europe	62.8	61.2	59.5	60.7
Soviet Union and CMEA Banks	28.4	26.9	25.6	28.0
Eastern Europe and Soviet Union	91.2	88.0	85.2	88.8
	Net debt [b]			
Bulgaria	1.9	1.2	0.7	0.7
Czechoslovakia	3.0	2.6	2.1	2.1
German Democratic Republic	10.7	8.4	7.0	6.3
Hungary	7.0	6.9	7.3	7.8
Poland [a]	25.2	25.2	25.3	25.7
Romania	9.5	8.4	6.6	6.2
Eastern Europe	57.3	52.6	48.8	48.8
Soviet Union and CMEA Banks	18.4	16.0	14.3	18.5
Eastern Europe and Soviet Union	75.6	68.6	63.1	67.3

Sources: National data for: Hungary, Poland and Romania; BIS/OECD, *Statistics on External Indebtedness: Banks and Trade-Related Non-Bank External Claims on Individual Borrowing Countries and Territories*, Paris and Basle, January 1986, for Bulgaria, Czechoslovakia, German Democratic Republic (adjusted here to include claims of the Federal Republic of Germany arising from clearing exchanges), Soviet Union (including CMEA banks). These data exclude any indebtedness to countries outside the BIS/OECD reporting area (e.g., all developing market economies).

[a] Includes arrears on official debt.

[b] Gross debt less eastern assets at BIS reporting banks only.

here as its gross debt less eastern deposits held at BIS reporting banks)[439] remained unchanged, the difference in the changes between these two debt measures stemming from the build up of eastern deposits. While the impact appears to have been small, in the first half of the year the depreciation of the US dollar against other currencies, in which about one half of the eastern debt is denominated, raised the debt in US dollar terms. Otherwise eastern Europe's net debt would have declined somewhat to the end of June because of further reductions by the German Democratic Republic and Romania.

Both the *Soviet Union's gross* and *net debt* rose in the first half by over $2 billion and $4 billion respectively, the change in net debt being larger because of the Soviet Union's recourse to its deposits. In this case also, the exchange rate effect has raised the indebtedness in US dollars, but the impact was marginal.

To the end of 1985, the effect of US dollar depreciation was considerable as most major currencies rose over 20 per cent against the US dollar. For the eastern net debt this implied a rise of some 10 per cent, or over $6 billion, as a result of this factor alone. Taking these changes into account, it is estimated that the *net* indebtedness of eastern Europe will have increased further to nearly $52 billion at the end of 1985, while that of the Soviet Union including CMEA banks may have mounted to over $19 billion.

The *debt burden* of eastern Europe, measured in terms of *net interest payments as a percentage of exports* to market economies, continued to ease in 1985 (table 4.3.6). In general, as noted, net interest payments fell (for the reasons already discussed) at a faster pace than exports of goods. By contrast, the ratio for the Soviet Union turned up but still remains very low by international standards.

Another indicator of debt burden, the *net debt to export ratio*, however, is estimated to have turned up for both eastern Europe and the Soviet Union because of the diverging movement of net debt and export revenues (table 4.3.7). A noteworthy point is the considerable difference between countries in the levels of this indicator, most countries' debt representing less than one year's export earnings from the market economies.

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[439] This incomplete measure of net debt is not fully satisfactory since it does not account for all eastern assets. To this extent, it tends to *overstate* true net indebtedness. Another limitation of the measure is that it does not always permit a full reconciliation with developments in the current account. On these points, see Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 36, No. 4, Pergamon Press for the United Nations, December 1984, pp. 460-461.

National data taking account of a broader range of assets are available only for Hungary and Romania (billion dollars):

	Hungary		*Romania*
	a	*b*	*a*
1982	6.5	4.9	9.2
1983	6.4	4.6	8.2
1984	6.3	4.1	6.3
1985	8.2	5.0	6.2 [c]

[a] Incorporating international reserves only.

[b] Incorporating international reserves and other financial assets.

[c] End-June.

TABLE 4.3.6

Eastern Europe and the Soviet Union: ratio of net interest payments to exports to the market economies, 1980-1985

(*Per cent*)

	1980	*1981*	*1982*	*1983*	*1984*	*1985**
Bulgaria	11.7	10.1	7.5	5.6	3.3	2.7
Czechoslovakia	6.6	8.6	7.5	5.7	5.0	4.2
German Democratic Republic	20.5	23.2	16.8	10.6	8.8	6.7
Hungary	9.9	28.0	23.7	15.4	17.5	17.7
Poland	30.0	51.0	55.5	52.1	42.4	44.6
Romania	12.2	14.5	14.7	11.8	10.1	8.7
Eastern Europe	18.8	24.2	21.4	16.7	14.3	14.0
Soviet Union	3.9	5.0	4.4	3.5	3.0	3.6
Eastern Europe and the Soviet Union [a]	10.7	13.7	11.7	9.1	8.5	8.8

Source: ECE secretariat estimates. Net interest flows for Hungary, Romania and Poland are from national sources, and in the case of Poland were adjusted for interest arrears. Export data used refer to goods only and thus exclude service and transfer receipts.

[a] Includes net interest payments of CMEA banks.

TABLE 4.3.7

Eastern Europe and the Soviet Union: ratio of net debt to exports to market economies, 1980-1985

(*Per cent*)

	1980	*1981*	*1982*	*1983*	*1984*	*1985**
Bulgaria	89.1	68.4	56.5	43.0	21.7	27.1
Czechoslovakia	64.0	61.1	62.6	52.7	42.7	44.0
German Democratic Republic	199.2	172.0	129.2	93.3	76.5	65.8
Hungary	187.2	197.8	170.6	161.3	170.8	240.5
Poland	301.5	446.2	460.6	456.1	431.3	492.0
Romania	143.7	136.1	151.3	133.8	93.4	87.9
Eastern Europe	179.0	187.4	177.6	160.2	142.2	155.0
Soviet Union	41.7	48.6	37.6	31.4	25.4	42.9
Eastern Europe and the Soviet Union [a]	111.2	117.0	102.0	90.9	81.3	102.0

Source: ECE secretariat estimates. Gross debt figures for Hungary, Poland and Romania are from national sources. Net debt is calculated using only deposits of these countries at BIS reporting banks. Incorporation of other assets would lower these figures as would service and transfer receipts in exports.

[a] Includes debt of CMEA banks.

4.4 PROSPECTS FOR EAST-WEST TRADE

While the impact of the oil price drop on global activity is expected to be positive, the implications for east-west trade are not auspicious. Faster growth in the developed market economies may translate into enlarged possibilities for eastern exporters. The need for western goods is likely to remain high in the east, but revenues from oil exports would suffer. Resort to credits is an option. The conservative stance towards debt generally adopted by eastern countries would weigh against a surge in eastern borrowing. In this section, the outlook for western economic activity and certain aspects of western supply are discussed first; then the focus turns to the factors likely to affect eastern demand for western goods; finally, the impact of the recent oil price decline on east-west trade and some possible responses are discussed.

(i) More buoyant western demand should stimulate imports

Improving prospects for *western economic growth* seem to be the main element which should buoy east-west trade in 1986. While the link between overall economic activity in the west and imports from the east is not always very strong (as in 1985 for example), the outlook for western markets does nevertheless determine the overall prospects for eastern exports. According to present forecasts, western Europe's GDP growth is expected to quicken from 2 1/2 per cent in 1985 to some 3 1/2 per cent in 1986. Western Europe's prospects are particularly important in this regard since it absorbs over 90 per cent of the east's total exports to the west. Importantly, the Federal Republic of Germany's growth outlook has continued to improve. This country is by far the largest individual western market for the east, accounting for about one quarter of western imports from that group; expected shifts in the development of the Federal Republic's demand structure away from export-led growth toward more dynamic domestic demand is likely to have favourable implications for imports. A similar development may arise in other western countries under the impetus of lower oil prices.

On a global basis, pressures for increased protection from foreign goods have been mounting and have led to the application of some new measures and the tightening of existing ones. These developments have given rise to a sense of urgency to counteract what has been called the new protectionism, and have provided the impetus to begin a new round of global trade negotiations under GATT. However, it is quite uncertain to what extent the prospective negotiations can slow the application of protectionist measures or roll back existing barriers. Substantial progress is likely to be difficult, given persistent levels of high unemployment, but the improved prospects for faster economic growth may offer some cause for optimism. Global developments in protectionism can also affect east-west trade and have heightened concern about future access to foreign markets.

As regards developments affecting *western exports* to the east, easier availability of official and guaranteed trade credits has facilitated trade in capital goods in particular. On the other hand, western sales of a range of high technology goods, including some which the east would find useful in its current efforts to modernize and restructure industry, have been constrained by export controls. During the 1982-1984 multilateral list review, agreements were reached by those western countries participating in the Co-ordinating Committee for Multilateral Export Controls (COCOM) to tighten controls in a number of high technology areas deemed to have military applications, e.g., computers, software, microprocessors, telecommunications equipment, and advanced materials. Subsequently, COCOM member countries have been revising their national regulations to implement these agreements.

(ii) Eastern imports needs high; tightness in supply of exports likely to persist

While the *east* maintains considerable interest in *imports* from the west, its *demand* for western goods is constrained by the availability of convertible currency. Nevertheless, a continued expansion in output—the plans for 1986 call for some rise in the growth rate of industrial production—and somewhat higher rates of investment should provide opportunities for western exporters of intermediate, capital and consumer goods. In recent years there has been a tendency to raise the share of *industrial inputs* and consumer goods in total imports to support output growth, as agricultural import needs have diminished. Nevertheless, according to some official statements there remains an unsatisfied need for imported industrial inputs which is difficult to fulfill owing to constraints on convertible currency purchases.

While the historical relationship between domestic investment and the imports of *capital goods* has often been a loose one, the pick-up in eastern investment activity foreseen in the plans for 1986 should improve the prospects for western exporters of engineering goods. In several east European countries imports of engineering goods started to recover in 1984-1985. Perhaps even more important are the underlying requirements for new machinery and equipment to modernize the existing industrial structure. The pace of this transformation slowed in past years when investment activity, and often imports of equipment, had to be curtailed in the interest of external adjustment.

In that respect the Soviet Union's plan for 1986 stands out since it envisages more than doubling the growth of gross investment expenditure, from some 3 per cent in 1985 to almost 8 per cent. Two features of current Soviet economic policy may, in particular, have implications for its capital goods imports. First, the stress in the 1986 Soviet plan is on the rapid modernization and restructuring of industry. While domestic industry and purchases from other CMEA countries are counted upon to provide the overwhelming share of the necessary new machinery and equipment, imports of these goods from the west could also play a role. Second, an ambitious energy investment programme has been conceived which calls for considerable rise in outlays, including a 31 per cent increase in expenditures on the oil extraction sector. Since some of the equipment needs of these industries have traditionally been met by imports from the west, the Soviet Union might step up such purchases to facilitate implementation of the programme for this year.

While it may have been too early for the import requirements underlying the Soviet investment plans for 1986 to be fully reflected in western commercial data, attention should be drawn to the fact that as of mid-November 1985, the Soviet Union's orders of machinery from the west had not shown a particularly strong upturn.[440] In fact, the signs point to an appreciable curtailment in the most recent months for which data are available. Taking normal delivery lags into consideration, these data suggest that no boom in machinery and equipment imports is imminent in 1986, although purchases are likely to increase from the low 1985 level.

Finally, it might be noted that in the west, particularly among manufacturers of engineering goods, the start of a new five-year plan period has aroused anticipation of increased eastern purchases of machinery and equipment in support of new investment programmes. However, past experience does not offer evidence in favour of a systematic surge in eastern equipment imports in the first year of a five-year plan.[441]

Eastern imports of *agricultural products* are expected to decline in value in the first half of 1986, partly owing to weak market prices. Results in east European agriculture were mixed in 1985—some countries had record or near record harvests while drought adversely affected the output of others. Beyond the first half of 1986, food imports will increasingly become dependent upon the outlook for the forthcoming crop year, but prices are expected to remain weak. If recent import trends continue, east European food purchases may be further reduced. The Soviet Union's imports in real terms are expected to remain at relatively high levels but expenditures should drop appreciably owing to lower prices.[442]

Eastern convertible currencies inflows, which determine the overall value of imports from the market economies, essentially reflect the course of *export earnings*, though these may be supplemented by credit takings. Although western demand is a key determinant of these revenues, eastern supply conditions are also important, especially in the energy sectors. Currently, the outlook for the *Soviet Union's* export of *fuels* to the west (in quantity) looks uncertain. On the one hand, its deliveries of gas to western Europe are slated to rise in accordance with the provisions of long-term contracts. On the other hand, the Soviet Union's production of crude oil declined again in 1985 and exports to the west were sharply down for this and other reasons. Investment plans in the Soviet Union for 1986, as noted, attest to the considerable importance attached by Soviet authorities to improving the supply situation in this industry and, indirectly, to the convertible currency revenues derived from it. Presumably the plan also envisages a continuing and determined effort to substitute other energy forms for oil in domestic uses, thereby freeing it for export. The impact of this investment programme on oil output and exports in 1986 and beyond will depend upon a number of factors, including the speed at which the large quantity of additional machinery and equipment foreseen in the plan materializes and becomes productive, the rate at which other forms of energy are substituted for oil, the development of domestic consumption, and the evolution of exports to the CMEA countries.[443]

The one quarter of total *East European* exports to the west accounted for by *fuels* is to a large part based upon imports of petroleum, mainly from the Soviet Union, but also from middle eastern countries. As regards supplies from the Soviet Union, trade protocols for 1986 and the remainder of the 1986-1990 plan period suggest little change from deliveries in 1985. Moreover, given that several east European countries have been experiencing energy shortages, there may be little buoyancy in eastern petroleum product exports in real terms, particularly if domestic demand also grows. As regards *coal* exports, largely from Poland, it appears that there is little scope for further expansion given tightening constraints on production.[444]

Food deliveries to the west were one of the main dynamic elements in the east European exports in 1985, increasing earnings at a time of declining prices. If recent trends continue, the volume of exports may well continue to rise provided there are no severe harvest setbacks.

Manufactured goods exports have supplied about one half of east European (and 10 per cent of Soviet) export revenues earned in the developed market economies. While the determinants of these exports are complex, attention may be drawn to the fact that eastern exports of these goods declined in real terms in 1985 despite an expanding western market. This loss of western market share seems to reflect a long-term trend indicating that the east benefits progressively less from buoyant western import demand.

Some pressure on eastern Europe's resources, and thus on its export potential *vis-à-vis* the west, is expected to continue owing to the need for further *external adjustment* in trade relations with the Soviet Union. Pressure stemming from the deterioration of eastern Europe's terms of trade is likely to cease as oil prices in intra-CMEA trade peak. In 1987, relief should be forthcoming as oil prices are likely to turn down and eastern Europe's terms of trade start to improve. Nonetheless, tightness in east European resources would remain as those countries still running trade deficits with the Soviet Union seek to eliminate them, and, thereafter, reduce debt stemming from past trade deficits.

In addition to the convertible currency earned in western markets, a part of eastern *revenues* originate in the *developing countries*. However, adjustment measures undertaken by highly indebted developing countries have constrained their import demand, with negative implications for eastern Europe. A large share of eastern exports to the developing countries is destined for oil producers, whose income has been particularly affected by the erosion of oil prices. These developments undoubtedly explain, at least in part, the continuing fall in eastern exports to the developing countries in the first three quarters of 1985. Another factor may be a reduced willingness on the part of the east to promote exports to these areas by means of export credits—due to the fact that some developing countries have fallen into arrears on such obligations.

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[440] Economist Intelligence Unit, *Quarterly Economic Review of the Soviet Union*, No. 4, 1985, p. 17. This source shows orders of machinery by the Soviet Union amounting to $2.6 billion for the period 1 January-14 November 1985, up from the exceptionally low ordering activity in 1984, but far below past peaks. It also draws attention to the possibility of error in its estimates for the most recent quarter owing to the fact that a substantial number of contracts have been reported without disclosure of the contract value. The highest level of ordering, amounting to $6 billion, was recorded in 1976 and 1981 in connection with large pipeline contracts.

[441] During the four five-year plan periods of 1961-1985, the growth of machinery and equipment imports of the seven eastern countries accelerated in the first year of the five-year plan in 13 instances, but slowed or actually declined in 15 cases. Only in 1966 did the machinery imports of most eastern countries accelerate.

[442] For recent trends of western agricultural goods exports to the east, see Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985, table 2.7.

[443] Re-exports of crude oil imported from the Middle East or of products based upon it, have often made important contributions to the overall oil exports of east European countries and of the Soviet Union to the west. These deals depend largely upon the barter of eastern manufactures for oil and opportunities for transactions of this kind appear to depend upon, among other factors, the state of the oil market.

[444] Total Polish exports of coal are projected at 35-37 million tons in 1986 compared with 36 million tons in 1985.

On balance, this assessment of eastern export potential, in addition to the points raised above in the analysis of the disappointing eastern export performance in 1985, suggest a cautiously subdued outlook. In fact, official plans of several eastern countries, elaborated before the oil price decline, tend to support this assessment (table 4.4.1) and various commentaries draw attention to the inadequacy of the export plan figures if other objectives are to be achieved.[445]

TABLE 4.4.1

Eastern plans for non-rouble trade in 1986
(*Percentage increase*)

	Exports	*Imports*
Czechoslovakia [a]	0.2	13.3
Hungary [b]	2-2.5	1-2
Poland [b]	2	−3

Sources: *Hospodářske noviny*, No. 9, 1986; *Népszabadság*, 31 December 1985; *Rzeczpospolita*, 12 December 1985.

[a] With non-socialist countries.

[b] In volume.

(iii) Oil price decline likely to curtail east-west trade

The sharp plunge in world oil prices at the beginning of 1986 is bound to have a profound impact on the development of east-west trade. If prices were to stabilize at $15-20 per barrel—30-45 per cent below the average 1985 level—this could result in a 17-22 per cent ($4-5 billion) fall in the export revenues of the *Soviet Union* from the west.[446] The full impact would of course be felt only gradually as the spot market and posted price levels are incorporated in contracted prices; on the other hand, the impact would eventually be larger as the prices for other fuels (natural gas in particular) and petro-chemicals are also affected.[447] As regards the Soviet Union's gas deliveries, a price decline in the range cited would imply a further fall of 4-7 per cent ($1-2 billion) in export revenues from the west. The Soviet Union would be expected to suffer a large terms of trade loss *vis-à-vis* the *west* since the oil price fall would ultimately affect some 80 per cent (the share of fuels in its exports) of its export earnings,. Another 5-10 per cent provided by primary goods could also be subject to falling prices.[448]

While *eastern Europe* is expected to experience some short-run terms of trade loss *vis-à-vis* the *west*, the outcome is less certain than in the case of the Soviet Union because of offsetting effects. About one quarter of east European exports to the west consists of fuels, two thirds of which is in petroleum products that are likely to be affected by the lower oil price. Prices of coal, which accounts for about one third of the fuels share, are likely to change less than that of oil. Declining prices of primary goods affect another quarter of total east European exports. These two factors, especially the former, could offset any effects of relative price gains in east European exports of manufactures. Accordingly, eastern Europe's terms of trade loss will probably tend to reduce its capacity to import from the west. However, the extent to which this occurs depends on the development of its convertible currency expenditures outside the developed market economies, particularly on crude oil. For example, if all east European crude oil purchases originate in OPEC, then lower oil prices would improve east European terms of trade with OPEC which would compensate for (and probably neutralize) its loss in terms of trade *vis-à-vis* the west. On the other hand, if an east European country exports fuel extracted domestically, there would be no compensating terms of trade gain, and if its fuel exports are based on fuel imports from the Soviet Union, offsetting terms of trade gains may take some time to come.[449] Since most east European countries fall somewhere between these two cases,[450] the purchasing power for the group as a whole would on balance probably be reduced, putting downward pressure on imports.

Indirectly, eastern Europe and the Soviet Union may also lose revenues if third world oil exporters find it necessary to reduce their imports from them because of the cut in their incomes.

On the whole, the *west's* terms of trade should improve, since some 70 per cent of its total exports (i.e., manufactures) have recently experienced rising prices while goods which comprise only 20-30 per cent of these exports have been subject to weakening prices (e.g., food, certain primary materials, etc.).

Hence, the oil price decline by itself would reduce *eastern export revenues*. But this may be offset to some extent if western demand picks up and the east manages to capture some of the benefits. In this case the issues involving the expansion of eastern export potential already discussed come to the fore.

To the extent that such pressures to curtail *east European and Soviet imports* from the west develop, policies toward external finance eventually (or already) adopted by the east will become crucial for the development of this segment of east-west trade. Among other factors, decisions taken and measures implemented are likely to hinge upon whether lower oil prices are perceived as a temporary or longer-lasting phenomenon. Also, the differences between eastern countries as regards their external financial situations define their relative scopes for manoeuvre.[451]

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[445] For example, during parliamentary debates on Hungary's draft five-year plan, views were voiced about the implications of the 3-3.5 per cent annual export growth figures (which are higher than the plan figures for 1986). On the one hand, doubts were raised as to whether the existing export promotion system would give enough impetus to enterprises to achieve this target (*Heti Világgazdaság*, 4 January 1986). Others found the planned rate insufficient to provide adequate import growth. Moreover, it was noted that at those rates Hungary's share of the world market would continue to contract (*Népszabadság*, 21 December 1985).

[446] These figures, as well as the following discussion, are based upon the assumption that neither the geographical pattern nor the quantities of fuels traded change owing to the price change. In fact, some modification of flows may well occur as eastern Europe, the Soviet Union and OPEC countries adjust to the new price levels. These estimates are based on the 1985 commodity composition.

[447] In 1984 eastern Europe and the Soviet Union together exported some $3.4 billion of chemicals to the west but imported $5.1 billion in return. While the higher import figure might suggest a greater reduction in the east's import bill from the oil price drop, the east's terms of trade in this commodity group may decline since its imports from the west apparently have a lower cost share of oil than its exports.

[448] Owing to the general invoicing of oil transactions in US dollars, the marked depreciation of the US dollar against other currencies would also result in a terms of trade loss for net oil exporters.

[449] Eastern fuel imports originating in the Soviet Union and paid for in roubles are priced according to a moving average of world market prices of the five previous years; terms of trade gains stemming from the absorption of the fuel price drop will therefore come in more slowly than the losses in east-west transactions.

[450] Romania is potentially the clearest exception since its petroleum products exports derive almost entirely from OPEC oil. However, the nature of the contracts under which this oil is purchased are also of importance in this regard.

Recourse to financial resources could involve drawing down bank deposits, since the liquidity position of several countries is quite favourable. Any assets held in the form of claims against developing countries may also yield revenue and, for the Soviet Union, there is some potential for gold sales. Some scope exists for further borrowing, despite a possible worsening in the east's debt burden indicators resulting from the fall in export revenues.[452] If however, current account balances recorded in 1985 were to be preserved, then imports might have to be constrained—an option which is likely to be unattractive since imports might have to be maintained below levels foreseen in the five-year plans just getting under way. In particular, lower imports of machinery and equipment could set back restructuring and modernization aims.

Although the responses of eastern Europe and the Soviet Union to the fall in oil prices are not known at this time, the earlier analysis of the developments in 1985 may provide hints as to the future direction of eastern policies toward east-west trade and finance. While the east European countries raised a record volume of credits in the international funds markets in 1985, this does not appear to indicate an intention to return to the policies of the 1970s when imports were supported through debt accumulation. For several years these countries have successfully striven to improve their external financial positions, and as a result most have regained normal access to international financial markets. The high level of borrowing in 1985—one of the manifestations of normalization—was generally used to consolidate those gains. New finance did not result in an increase in eastern Europe's net debt in 1985.[453]

Although it is true that east European import volumes turned up moderately in 1985, growth rates in some cases exceeded those foreseen in the plans and are due, in part, to exceptional purchases necessitated by adverse winter conditions.[454] The net debt of Bulgaria, Hungary and Poland rose for this reason, but also because export earnings were weaker than anticipated. In Hungary, at least, the higher level of indebtedness is viewed as temporary, and Poland intends to scale down its convertible currency imports in 1985 in order to achieve a higher trade surplus.

The sharp downturn in export earnings, rather than import growth, is largely responsible for the rise in the Soviet Union's net indebtedness. In fact, when Soviet imports of agricultural goods fell appreciably in the third quarter, purchases of other goods were not speeded up to compensate. As a result, its trade balance moved into surplus and its net debt declined.

Taken together, these events suggest that imports could be sluggish in the event that export revenues remain weak or decline.

The recent level of eastern credit takings may also give some hint as regards import intentions. At the beginning of 1986, the level of eastern credit syndications has been low compared with both the closing months of 1985 and the corresponding period in the previous year, suggesting that borrowing for any motive, including to support imports, has not been strong.[455]

It might be observed that what appears to be a relatively conservative external financial policy is broadly consistent with the aims pronounced by the financial authorities of several eastern countries.[456] That policy continues to be so cautious, in spite of the normalization of financial market activity, is likely to have a number of reasons. First, memories are still fresh of the painful train of events in the early 1980s when contracting world import demand, high interest rates, reduced access to new commercial credits, and a liquidity crisis all combined to buffet the eastern economies, necessitating sharp external and internal adjustment. Accordingly, the subsequent steps taken by the eastern authorities in the realm of external finance may be seen as a means of protecting their economies against world market fluctuations. Second, according to certain official statements, high real interest rates remain a deterrent to borrowing. Third, the quality of some claims on certain developing countries in financial difficulty has diminished and increased the uncertainty of collecting scheduled debt service payments from them. Finally, new reasons for reinforcing a cautious approach may have surfaced during the past year, raising the perceived uncertainty surrounding the development of future export revenues. The depressed or even declining prices of some primary commodities and fuels which account for a considerable share of eastern exports have already been noted. Finally, the 1985 export setback and deterioration in current accounts may have raised the level of uncertainty as regards future convertible currency earnings. While a part of the foreign earnings shortfall of that year can be attributed to the exceptionally difficult winter, such unforeseen events also have to be provided for. More recently the decline in oil prices might be seen as lowering revenues and/or increasing uncertainty, both of which could well reinforce the conservative policy stance toward external indebtedness.

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[451] For example, taking account of its planned trade balance for 1986 and other (net) receipts, it may be difficult for Poland to meet its debt servicing obligations in accordance with the schedule agreed with its commercial bank and official creditors.

[452] Those eastern countries which have been in the financial markets continued to receive favourable terms. The terms negotiated by the Soviet Union in February do not appear to have changed from those obtained in 1985. At the same time Hungary was in the process of renegotiating a bankers acceptance facility on which contractual margins and manager fees were to be reduced. On the other hand, the recent co-ordinated reduction in the interest rates on several key currencies would tend to lighten the eastern debt burden.

[453] While net debt of eastern Europe was estimated to have risen in 1985, this stemmed from exchange rate effects reflecting the depreciation of the US dollar.

[454] While net the upturn, east European import volumes still remain below historical levels.

[455] These data, however, exclude bank-to-bank arrangements (including guaranteed credits) and non-bank (official and/or guaranteed credits), all of which are means of import finance, especially for the purchases of machinery and equipment. A recent ECE secretariat analysis based upon BIS/OECD data indicates that most eastern countries (but not the Soviet Union) have been increasing their reliance upon the latter sources of funds as a means of trade finance. See Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 37, No. 4, Pergamon Press for the United Nations, December 1985.

[456] There does not appear to have been any change in Romania's policy aimed at eliminating its indebtedness during the current five-year plan. In Hungary, Mr. P. Veres, the Minister of Foreign Trade, said that the five-year plan for 1986-1990 foresees a $1 billion reduction in the country's net debt, which would require a cumulative trade surplus of $2-2.5 billion. New credits, according to Mr. J. Fekete, the first deputy president of the National Bank of Hungary, are to be scaled down in 1986 to about $1 billion, about half that of 1985 (*Financial Times*, 3 December 1985).

In Czechoslovakia, however, there appears to have been some change in policy. According to Mr. J. Kroh, Director of the State Bank, Czechoslovakia intends to step up its borrowing on the international markets this year to help finance investments in machinery needed to increase exports and modernize industry further. However, loans will be raised only for specific projects. Although he gave no figure on anticipated borrowing, or its implication for the overall level of Czechoslovakia's debt, he said that the new credits would exceed the $100 million raised in 1985. Furthermore he noted that "during the current five year plan period, we expect to be more often on the Euromarkets than we were during the past five years". Taking into account Czechoslovakia's assets in foreign banks, its (net) foreign debt is now "no longer economically important" (*Financial Times*, 19 February 1986, p. 2).

These events in oil markets are likely to accentuate a long-standing issue in east-west trade—i.e., what is felt by observers in both east and west to be an excessive dependence of eastern export earnings upon energy (and other primary materials). Perceptions of permanently and appreciably lower energy prices than in past years, coupled with the possibility of limited scope for expanding the physical quantity of exports of these goods, may induce decisions aimed at coming to terms with these structural weaknesses.

4.5 INVESTMENT GOODS TRADE OF THE EAST EUROPEAN COUNTRIES AND THE SOVIE UNION, 1975-1983

A feature of the 1970s was the increasing reliance of the countries of eastern Europe and the Soviet Union on the international division of labour for supplies of investment goods. This reflected, in part, the increasing importance of east-west industrial co-operation, and also the efforts made to intensify intra-CMEA co-operation in a number of areas, first signalled at the beginning of the 1970s by the joint adoption of long-term target-oriented programmes which have since been modified and extended at intervals throughout the decade. Between 1970 and 1975, the increase in imports of investment goods from both inside and outside the seven country area was rather rapid and particularly as to imports from outside.[457] The growth of both flows slowed down after 1975 and particularly after 1977-1978. Nevertheless, the seven centrally planned countries of the ECE region taken together registered a rise in their investment goods imports from all suppliers from just over $31 billion in 1975 to $51 billion in 1980 and to $57 billion in 1983 (in current prices). The need to reduce trade deficits and to repay debt resulted in slower rates of growth or contractions in the east European countries' investment goods imports in the late 1970s and early 1980s, but such imports continued to expand in the Soviet Union.

This note sets out to describe the data available on the investment goods trade of the eastern European countries and the Soviet Union (subsection (i)); to trace the main changes in the sector and branch final users' share of investment goods imports during 1975-1983, and to chart contrasts between intra-area and external supplies in this respect (subsection (ii); and finally, to review the main trends in the level and structure of the seven countries' mutual trade in investment goods (subsection (iii)).

(i) Statistics of east European and Soviet investment goods trade

The term "investment goods" refers as far as possible to goods purchased for investment purposes. An attempt has also been made to allocate the goods concerned to sectoral and industrial branch final users. A two-way breakdown of the origin and destination of the seven countries' investment goods exports and imports was considered: trade with each other (intra-area trade), and with all other countries (rest of the world) (table 4.5.1). The data used are based mainly upon the seven countries' own trade returns, converted into US dollars at official rates of exchange.

The commodity groups into which the area aggregates by origin and destination have been sub-divided correspond as closely as possible with final sectoral and industrial branch users.

The industrial branch final users are:

- electrical energy
- metallurgy
- wood and paper
- mining
- engineering
- printing
- oil extraction
- chemicals
- other light industry
- oil refining
- construction materials
- food.

Sectoral final users are:

- industry (sum of the above)
- communications
- construction
- pipeline
- agriculture (including all tractors)
- other (unidentified) material sphere users
- transport
- office equipment (including computers)
- scientific/medical equipment.

To permit comparisons with domestic investment spending investment goods imports were consolidated into the fiv sectors of the material sphere plus the non-material spher shown in tables 4.5.2 and 4.5.3 and into 9 industrial branches (for the German Democratic Republic)—see tables 4.5.4 an 4.5.5.

This part of the exercise involved close scrutiny of the seve countries' commodity trade returns. The trade classificatio used by several of the countries (the Standard Foreign Trad Classification (SFTC) of the Council for Mutual Economi Assistance) contains a large number of final use aggregates though Czechoslovakia, Hungary and Poland also report dat in SITC terms. However, since the trade statistics of th countries concerned leave out many important details at lowe levels of commodity disaggregation, omissions in country-reported trade data have been supplemented as far as possible b trade partners' returns. In the case of the seven countries' imports from the rest of the world, these have been extracted fro OECD publications. Partner country data have also been use to fill in gaps in the seven countries' mutual trade.

Investment goods have thus had to be defined in terms o both the SFTC and the SITC systems. In the former case, the consist, as a group, essentially of SFTC item 1 (machinery equipment and transport means), together with the addition o items such as pipes (item 266) but excluding others such a passenger motor vehicles (item 195), ballbearings and a few othe apparently intermediate goods items. The classification according to SITC is based on UN Broad Economic Categories 41 (capital goods) and 521* (industrial transport equipment excluding spare parts and accessories), together with steel pipe rails and railway sleepers etc.[458]

Many data gaps and uncertainties still remain. First, the lac of detailed information for the German Democratic Republi and Romania has necessitated heavy reliance on partner country trade data to estimate the final user detail—both in trad with other centrally planned countries of the area and in trad with the rest of the world. The mutual trade between these tw countries is, for the same reason, excluded from the commodit detail shown.

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[457] See United Nations Economic Commission for Europe, *Economic Survey of Europe in 1982*, New York, table 3.6.20, table 2.6.11, pp. 219-221.

[458] *UN Classification by Broad Economic Categories*, Statistica Papers, Series M, No. 53, New York, 1984.

TABLE 4.5.1

Total investment goods trade of eastern Europe and the Soviet Union in 1975, 1980 and 1983
(Millions of US dollars)

	1975	*1980*	*1983*
Imports:			
Identified by area of origin and by final use			
From eastern Europe and the Soviet Union	13 960	25 073	28 549
From rest of the world	11 952	14 669	15 831
Total	25 912	39 742	44 380
Not identified by origin or use	5 524	11 623	12 189
Total	31 436	51 365	56 839
Exports:			
Identified by area of destination and by final use			
To eastern Europe and the Soviet Union	13 494	25 871	28 711
To rest of the world	5 431	10 851	12 121
Total	18 926	36 722	40 831
Not identified by origin or use	4 709	8 624	10 028
Total	23 635	45 345	50 859

Source: National statistical publications and secretariat estimates; ECE (CPE data base).

Second, the attribution of reported commodity trade to final users presented difficulties. To take a specific country example, in 1983 about half the value of Soviet machinery and equipment imports from the world was reported in terms of final use sectors or industrial branches which could be attributed unambiguously to one or the other of those presented in tables 4.5.2-4.5.4. In other cases, where the final use sector or branch was not certain for a given item, it was allocated to the most likely branch, or to the item "other" material sphere. However, transport equipment was wholly allocated to the transport sector itself—though clearly some of these imports (e.g., lorries) may have been destined for enterprises outside the transport sector.[459]

Third, trade in a given commodity group by any of the seven countries may be reported for the world but not for trade with *all* six partner countries of eastern Europe and the Soviet Union. To the extent that such omissions conceal actual but unreported flows, they may inflate trade with the rest of the world, which is obtained as a residual.

Fourth, some of the seven countries reported certain items in trade with the world, but not for trade with *any* of the other six countries. The sum of these items—about 20 per cent of total investment goods imports and exports with the world—constitutes the "unidentified" item in table 4.5.1.

A number of checks have been run to verify the data on regions of origin and destination shown in table 4.5.1. First, on the assumption that the most important extra-area suppliers (i.e., exporters other than the seven countries themselves) are the OECD countries and Yugoslavia, the dollar totals derived for imports from the rest of the world were checked against the corresponding OECD-reported exports of "capital goods" to eastern Europe and the Soviet Union. After certain adjustments—to take account, for instance, of the fact that spare parts are included in investment goods trade data in some eastern European countries and the Soviet Union whereas they are excluded from SITC-based, OECD-reported data on capital goods—a reasonably good correspondence was found between the respective import and export aggregates. OECD-reported exports (which exclude trade between the German Democratic Republic and the Federal Republic of Germany) amounted to about 90 per cent of the corresponding import flow (including trade between the German Democratic Republic and the Federal Republic of Germany) reported by the seven countries up to 1982, falling to 85 per cent in 1983. However, the OECD data on exports to Czechoslovakia and the Soviet Union were significantly higher than those reported by the two countries themselves. It is not possible to find the source of these discrepancies.

With regard to intra-area flows, a close correspondence was obtained in all years between partner-country supplemented import and export data on the seven countries mutual trade. No attempt was made to check export data reported by eastern Europe and the Soviet Union to the rest of the world (i.e., excluding the seven countries' mutual trade) against import data reported by the corresponding partner countries. This did not seem worthwhile as exhaustive data are available only for OECD member countries, but non-OECD market economies (including the developing countries), as well as socialist countries outside eastern Europe and the Soviet Union, are also important markets for the seven countries' investment goods exports.

The basic figures of the seven countries' investment goods trade resulting from the above data selection show a near doubling of total imports, and a more than doubling of total exports, between 1975 and 1983 in value terms (table 4.5.1). Of the totals, some 80 per cent were identified by region of origin. The data indicate that intra-area trade grew faster than trade with the rest of the world on both the import and export side — particularly after 1980. It is against this background that the discussion of final user structures and of intra-area trade in the following subsections should be viewed.

(ii) Imports of investment goods by final users

(a) The sectoral final use structure

The data on imports of investment goods which can be identified by sectoral final users show a high degree of symmetry between all seven countries. The bulk of these imports are destined for use in the *material sphere* of the economies (85-95 per cent), with imports for the *non-material sphere* (here defined as medical/public health and office equipment including computers) accounting for between 5 and 15 per cent only (panel A of table 4.5.2).

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[459] The seven countries import lorries mainly from each other. For this reason the approach adopted to the sectoral allocation of transport means may not greatly affect imports from the rest of the world—though it would affect such exports to the rest of the world and intra-area trade.

Industry is usually the biggest single claimant with a share of 30-50 per cent, though it reached nearly 60 per cent in Romania in 1976-1980. However, its share in the total has fallen between the two sub-periods in four countries.

The second biggest category was *transport and communications* equipment (including steel pipe), with 20-35 per cent. In most countries, it was over 30 per cent of the total in both the two sub-periods shown, but it was rather lower than that in those countries where the share of industry, the other major final use sector, was particularly high (Poland and Romania). It was biggest in the Soviet Union where not only industry but also other sectors of the material sphere and the non-material sphere took generally smaller shares than in the other countries. However, it should be recalled that some of the items here allocated to the transport and communications sub-group may have been destined for final users outside the transport sector.

Together, industry and transport alone accounted for between two thirds and three quarters of all investment goods identifiable by end-use. The other two main sectors of the material sphere imports shown—*agriculture* and *construction*—accounted together for 10-15 per cent of the total in most countries (but only about 7 per cent in the Soviet Union), with agriculture taking about three quarters of that.

The two lower panels of table 4.5.2 show the sectoral distribution of investment goods imports from centrally planned countries of the ECE region and from the rest of the world respectively. In the discussion which follows, it should be borne in mind that, valued in dollar terms at official national currency/dollar exchange rates, the share of other centrally planned economies in the total supply of imported investment goods exceeded purchases from the rest of the world by nearly 1.8:1 in 1983—a ratio which steadily increased from its low point 1.1:1 in 1975.

The sectoral final use structure of investment goods imports indicates some fairly clear contrasts between the two regions of origin. All the seven countries demonstrate a marked preference for *industrial* investment goods in their investment goods imports from the rest of the world relative to imports from their centrally planned trading partners (though less so in 1981-1983 than in 1976-1980). Similarly, except in a small number of cases, the share of *transport and communications* equipment purchased by the seven countries from each other is much lower than in their imports from the rest of the world. Differences were also marked for the other, smaller material sphere sectoral importers. The share of *construction* and especially of *agricultural* investment goods in intra-area investment goods imports was 50-100 per cent higher than their share in imports from the rest of the world in 1976-1980. The difference was somewhat lower than this in 1981-1983.

Decisions on the sector (and industrial branch) pattern of investment goods imports are probably made according to criteria which vary over time and between countries. Such policy approaches are rarely discussed in the professional literature of the centrally planned economies. The sectoral breakdown of investment goods imports can be used to obtain a first, empirical idea of what priorities actually were by comparing it with a sectoral breakdown of investment. This comparison thus offers at least a first indicator of the *results* of allocation priorities, and enables some informed guesses to be made about the reasons for them.

Table 4.5.3 accordingly shows ratios derived from the sector/branch shares of investment goods imports and of total domestic investment. The ratios of "relative import intensity" (i.e., relative to other sectors) are derived simply by dividing the percentage share of each sector (or branch) in total imports of investment goods from each region of origin by the share of that sector in total investment.[460] Thus a ratio of 1 indicates that the shares are identical. These ratios suggest, first, that the share of *industry* in total investment goods imports from *within* the area is, in most cases, generally on the low side relative to industrial investment. In contrast, the corresponding ratios are mostly above unity for investment goods imports from the rest of the world.

The high share of *transport and communications* in imports from the two regions of origin results from two distinct policy orientations. First, joint action to improve transport links was one of the earliest beneficiaries of joint post-war CMEA action. Most intra-area exchanges of transport equipment during the period reviewed consisted of "conventional" transport items: railway rolling stock, ships, aircraft, buses and lorries. With regard to imports from the rest of the world, the data show, in contrast, that pipeline and associated equipment has accounted for the bulk (nearly two thirds) of investment goods for the transport sector in the case of imports from the rest of the world. The more detailed OECD data indicate that most of the remainder consisted of various types of special purpose rail, road and maritime equipment in eastern Europe, and mainly ships in the Soviet Union. The trade statistics thus bring out the relatively heavy reliance of the seven countries on the international division of labour in the development of both conventional and of new (pipeline) modes of transport. They also show that such reliance is concentrated, in the former case, in intra-area trade, and in the latter case in trade with the rest of the world.

A noticeable feature in all seven countries is the lack of emphasis placed on *agricultural* investment goods in total imports of investment goods relative to a still important investment effort. Ratios approached unity with regard to agricultural investment goods imports even from other centrally planned economies only in Bulgaria (in 1981-1983), Czechoslovakia (in 1976-1980) and in the German Democratic Republic—which is itself a major supplier of agricultural investment goods for the other countries of the area (subsection (iii) below). In the other countries' intra-area imports, and also in all seven countries' investment goods imports from the rest of the world, the farm sector demonstrates the lowest relative import intensity of all sectors contributing to material output. This contrasts with *construction*. Although it is a small investing sector (generally 2-6 per cent of the total), it has enjoyed relatively high priority in most east European countries' investment goods imports from other centrally planned economies of the region and, to a lesser extent, in imports from the rest of the world.

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[460] Investment data used are in constant prices while trade data are in current prices. Tests using western-reported data show that final-user price *relatives* changed little in east-west investment goods trade in 1975-1983. It is not possible to show the share of investment goods imports in domestic investment because of the lack of meaningful conversion coefficients between the external value of imports shown in the trade returns of the countries concerned and their value at domestic prices.

TABLE 4.5.2

Final-use sector breakdown of Soviet and east European investment goods imports, by region of origin

(Per cent of regional totals)

	Bulgaria		*Czechoslovakia*		*German Dem. Rep.*		*Hungary*		*Poland*		*Romania*		*Soviet Union*	
	1976-1980	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*
A. *From world*														
Industry	43.1	40.6	34.8	39.6	30.6	32.8	29.1	30.1	44.1	31.9	57.0	51.8	44.2	37.8
Construction	4.6	5.2	4.6	7.2	3.9	2.9	3.8	2.5	3.9	3.3	4.3	7.9	1.9	3.2
Agriculture	8.9	10.3	9.8	8.1	8.9	9.8	11.2	9.9	8.1	11.7	2.7	3.6	5.1	5.0
Transport, communications	32.2	31.2	26.7	24.6	32.2	27.8	32.4	32.7	28.2	34.0	24.8	21.5	33.4	34.8
Other material sphere	4.7	6.1	10.6	6.7	15.1	15.3	12.6	12.6	10.1	10.4	5.1	7.1	8.9	9.3
Total material sphere	93.6	93.4	86.5	86.0	90.6	88.7	89.2	87.6	94.4	91.3	94.0	91.9	93.5	90.1
Non-material sphere	6.4	6.6	13.5	14.0	9.4	11.3	10.8	12.4	5.6	8.7	6.0	8.1	6.5	9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
B. *From eastern Europe and the Soviet Union*														
Industry	42.0	38.4	26.7	33.3	28.6	30.0	25.1	28.6	31.2	23.8	49.5	53.3	35.5	35.4
Construction	5.0	5.9	5.1	7.4	4.0	3.3	3.9	2.8	5.2	3.5	6.1	7.9	1.3	1.7
Agriculture	10.3	12.4	12.4	9.7	10.7	12.2	12.7	10.3	12.7	15.1	2.8	4.1	8.9	7.8
Transport, communications	32.5	31.7	31.3	27.9	33.4	29.8	36.3	35.1	32.6	37.0	30.5	20.8	34.1	31.2
Other material sphere	4.2	5.8	11.2	8.0	15.8	15.7	12.0	11.3	11.1	10.6	6.9	7.6	11.0	10.5
Total material sphere	93.9	94.2	86.6	86.3	92.6	91.0	90.0	88.1	92.9	90.1	95.9	93.7	90.9	86.6
Non-material sphere	6.1	5.8	13.4	13.7	7.4	9.0	10.0	11.9	7.1	9.9	4.1	6.3	9.1	13.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
C. *From rest of the world*														
Industry	48.6	48.4	54.2	55.6	38.8	43.2	38.3	33.9	60.7	54.7	64.0	46.1	54.4	41.0
Construction	2.8	2.5	3.5	6.7	3.4	1.6	3.6	1.6	2.3	2.7	2.7	7.8	2.6	5.4
Agriculture	2.3	3.1	3.8	3.8	1.0	1.0	7.8	8.8	2.2	2.2	2.6	1.7	0.6	1.1
Transport, communications	30.9	29.6	15.6	15.6	27.0	20.5	23.4	26.4	22.5	25.3	19.4	24.1	32.6	39.8
Other material sphere	7.3	7.1	9.2	3.4	11.7	13.9	14.2	15.8	8.8	9.9	3.4	5.5	6.4	7.7
Total material sphere	91.9	90.6	86.3	85.1	92.0	80.2	87.4	86.5	96.4	94.8	92.2	85.3	96.5	94.9
Non-material sphere	8.1	9.4	13.7	14.9	18.0	19.8	12.6	13.5	3.6	5.2	7.8	4.7	3.5	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National statistical publications and ECE secretariat estimates.

(b) The industrial branch final use structure

Panel A of table 4.5.4 shows that, in contrast with sectoral final use structures, the branch distribution of industrial investment goods from the world as a whole has varied considerably between countries. In a majority of countries, equipment for the *energy* industry has taken highest priority, in others, *engineering*. Some changes in this pattern occurred after 1976-1980. They mainly reflect rises in the share of the energy and fuel industries in total investment goods imports, following the large rises in these two branches' share of investment spending which has characterized almost all the countries reviewed.

Table 4.5.4 also illustrates substantial differences between the industrial branch distribution of the seven countries' total investment goods imports from other centrally planned economies and from the rest of the world. They stem largely from the high share of investment goods for the *fuel* industry in intra-area investment goods trade. Between 1976-1980 and 1981-1983, this share increased in most countries. *Fuel and energy* investment goods together accounted for between 9 and 17 per cent of the total in 1976-1980, and between 8 and 15 per cent in 1981-1983. One of the heavy industrial branches (metallurgy, engineering or chemicals) has normally taken second place. The shares of both *metallurgy* and *chemicals* were, however, modest in all countries. The *wood and paper*, *light* and *food* branches (the consumer industries) were in general among the smallest beneficiaries of investment goods imported from within the area.

It is most practicable to examine differences in the structure of industrial investment goods imports from the two regions of origin on the basis of broad categories of industrial activity. The biggest contrast between the two regions of origin is the relatively high share of *heavy industrial* branches (metallurgy, chemicals and engineering) in investment goods imported from the rest of the world. These was some variation in the sizes of the constituent branches of heavy industry. Chemical equipment was by far the largest component in some countries. Engineering was also an important item in both sub-periods, but its share in total industrial investment goods imports varied widely between countries. Relative to imports from other centrally planned economies, goods for the consumer industries (wood and paper, light and food branches) were also high in investment goods imports from the rest of the world. The shares of fuel and energy branch final users of equipment imported from the rest of the world were thus relatively low compared with intra-area imports. The share of the energy branch in total investment goods imports from the rest of the world has, however, risen in some of the seven countries since the second half of the 1970s, while that of the fuel industry has risen, sometimes very sharply, in most.

The relationships between branch investment goods imports and investment spending in industry are illustrated in table 4.5.5. As in table 4.5.3, these measures of "relative import intensity" are ratios of branch shares in investment goods imports to branch shares in investment. It should be noted that they are based on the respective industry totals—i.e., they do not reflect, at the branch level, the changing share of industry itself within investment and investment goods imports in the economy as a whole. The ratios show, first, a wide variety of inter-country differences at branch level. Second, for a given

TABLE 4.5.3

Final-use sector structure of Soviet and east European investment goods imports relative to the investment structure, by region of origin
(Ratios of investment goods import shares to investment shares)

	Bulgaria		*Czechoslovakia*		*German Dem. Rep.*		*Hungary*		*Poland*		*Romania*		*Soviet Union*	
	1976-1980	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*
A. *From world*														
Industry	1.1	0.9	0.9	1.0	0.6	0.6	0.8	0.9	1.2	1.1	1.2	1.1	1.3	1.1
Construction	1.7	1.8	0.9	1.1	1.2	1.7	1.4	1.5	0.9	1.5	0.8	2.1	0.5	0.8
Agriculture	0.7	1.0	0.9	0.6	0.8	1.1	0.8	0.7	0.5	0.6	0.2	0.2	0.2	0.3
Transport, communications	2.7	2.8	4.5	4.7	3.6	3.6	2.7	2.8	3.4	5.2	2.4	1.9	2.8	2.8
Other material sphere	1.3	1.7	2.3	1.7	3.3	4.9	1.3	1.2	1.8	1.3	1.8	3.1	3.5	3.2
Total material sphere	1.3	1.3	1.3	1.3	1.2	1.1	1.2	1.2	1.3	1.4	1.2	1.1	1.3	1.2
Non-material sphere	0.2	0.2	0.4	0.4	0.4	0.5	0.4	0.4	0.2	0.2	0.3	0.5	0.3	0.4
Total	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
B. *From eastern Europe and the Soviet Union*														
Industry	1.0	0.9	0.7	0.8	0.6	0.5	0.7	0.9	0.9	0.8	1.0	1.1	1.0	1.0
Construction	1.8	2.1	1.0	1.1	1.2	1.9	1.5	1.7	1.1	1.6	1.1	2.1	0.3	0.4
Agriculture	0.8	1.2	1.1	0.8	1.0	1.3	0.9	0.7	0.7	0.8	0.2	0.3	0.4	0.4
Transport, communications	2.7	2.8	5.3	5.3	3.8	3.9	3.0	3.0	3.9	5.7	2.9	1.8	2.9	2.5
Other material sphere	1.1	1.6	2.5	2.1	3.5	5.1	1.3	1.0	2.0	1.3	2.5	3.5	4.3	3.7
Total material sphere	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.3	1.3	1.4	1.2	1.1	1.2	1.2
Non-material sphere	0.2	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.4	0.4	0.5
Total	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
C. *From rest of the world*														
Industry	1.2	1.1	1.4	1.4	0.8	0.8	1.1	1.1	1.7	1.9	1.3	0.9	1.5	1.2
Construction	1.0	0.9	0.7	1.0	1.0	0.9	1.4	0.9	0.5	1.2	0.5	2.1	0.6	1.4
Agriculture	0.2	0.3	0.3	0.3	0.1	0.1	0.6	0.6	0.1	0.1	0.2	0.1	–	0.1
Transport, communications	2.6	2.6	2.6	3.0	3.1	2.7	2.0	2.3	2.7	3.9	1.9	2.1	2.7	3.3
Other material sphere	2.0	1.9	2.0	0.9	2.6	4.5	1.2	1.2	1.6	1.2	1.2	2.4	2.5	2.7
Total material sphere	1.3	1.3	1.3	1.2	1.1	1.0	1.2	1.2	1.3	1.5	1.1	1.0	1.3	1.3
Non-material sphere	0.3	0.3	0.4	0.5	0.8	0.9	0.5	0.5	0.1	0.1	0.4	0.9	0.1	0.2
Total	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Source: National statistical publications and ECE secretariat estimates.

country, they also show significant divergences between allocation policies for investment and for investment goods imports.

Within industrial investment as a whole, branches showing the highest relative import intensity with regard to both regions of origin taken together are the *light* and *energy* industries in virtually all countries. Of the heavy industrial branches, *metallurgy* shows a relatively high ratio in Bulgaria, in Poland (1981-1983 only), Romania and the Soviet Union; *engineering* in Hungary, Poland and Romania; and *chemicals* only in Bulgaria (1981-1983), Poland, Romania (1976-1980 only), and the Soviet Union.

The characteristics noted above largely reflect the pattern of priorities for intra-area investment goods imports. This presents some sharp contrasts with imports from the rest of the world. First, whereas the energy industry shows a high degree of relative import intensity in total, and with regard to intra-area imports, the ratios are smaller than unity in all cases with regard to imports from the rest of the world. Second, the chemical industry is relatively import-intensive in respect of total imports and intra-area imports in only a few cases, but in virtually all cases in imports from the rest of the world. Third, the wood and paper industry, which is not a priority claimant on intra-area imports, shows the opposite characteristic in imports from the rest of the world. In other cases, differences are a matter of degree rather than of contrast.

It is difficult to summarize the above varying priorities and changes in priorities within and between investment goods imports from within the area and from the rest of the world, but some main elements emerge. First, *energy* investment programmes are relatively import intensive, but more so in intra-area exchanges than in imports of investment goods from the rest of the world. The latter are, in contrast, usually more oriented towards certain heavy and consumer goods industries. Second, intra-area exchanges of chemical industry investment goods show low relative import intensity in investment goods imports in total and in those traded within the area, but are priority components of imports from the rest of the world. The same is true for metallurgy in most of the countries examined. Third, the above pattern suggests that some technology-intensive branches, notably energy, are given relatively higher priority in intra-area trade than in imports from the rest of the world. But this is much less clearly the case for engineering and metallurgy, and the reverse is true for chemicals. Fourth, the apparently low priority accorded to the fuel industry in total industrial investment goods imports is perhaps unexpected. Its relative import intensity ratio is lower than unity in all countries. Moreover, in only a few cases does this branch show a higher relative investment goods import intensity in imports from the rest of the world than in intra-area imports. Finally, given the current importance of programmes to increase the supply and improve the processing of foodstuffs, the low ratios for the food industry in imports from both regions of origin (as for agriculture) are noteworthy.

TABLE 4.5.4

Final-use branch structure of industrial investment goods imports of eastern Europe and the Soviet Union by region of origin
(Per cent of regional totals)

	Bulgaria		*Czechoslovakia*		*German Dem. Rep.*		*Hungary*		*Poland*		*Romania*		*Soviet Union*	
	1976-1980	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*
A. *From the world*														
Energy	12.9	9.5	11.2	12.5	10.6	12.8	7.5	12.6	4.9	6.0	7.0	8.6	5.8	6.0
Fuel	2.4	3.7	2.4	2.5			1.5	1.7	4.5	4.0	4.1	6.3	4.4	5.9
Metallurgy	4.6	4.5	2.3	3.2	2.4	3.1	1.8	1.3	4.8	2.5	9.0	7.7	3.5	3.7
Engineering	6.5	8.6	8.0	6.5	6.3	6.5	6.3	5.8	12.8	9.2	16.5	15.8	8.9	8.0
Chemicals	5.9	5.5	2.0	2.8	2.8	2.4	2.9	2.4	7.0	3.2	9.7	3.7	12.4	5.0
Construction materials	3.3	2.3	0.3	0.7	0.6	1.4	0.9	0.5	1.3	0.5	0.4	0.6	0.8	0.8
Wood, paper	1.6	1.4	2.0	4.6	5.9	5.0	0.8	0.7	2.2	0.4	2.1	0.9	1.9	1.2
Light	3.6	3.2	4.5	4.5			3.9	2.9	4.2	4.5	7.2	7.4	3.9	4.2
Food	2.3	1.9	2.1	2.0	2.0	1.6	3.4	2.3	2.5	1.6	0.8	0.7	2.5	3.0
Total industry	43.1	40.6	34.8	39.3	30.6	32.8	29.1	30.1	44.1	31.9	57.0	51.0	44.2	37.8
B. *From eastern Europe and the Soviet Union*														
Energy	14.6	10.6	8.7	13.1	11.3	14.9	8.9	15.9	5.5	5.6	7.2	9.2	8.2	7.8
Fuel	2.8	3.9	2.1	2.5			1.6	1.6	3.5	2.5	5.1	5.5	3.0	3.6
Metallurgy	4.9	4.5	1.7	3.0	2.4	2.4	0.6	0.5	2.8	1.8	5.7	8.9	2.2	2.2
Engineering	6.7	7.5	7.1	5.7	6.4	6.2	5.9	5.9	10.3	6.4	16.1	17.0	6.0	6.7
Chemicals	3.6	4.3	1.0	2.2	2.1	0.9	1.4	1.0	1.6	1.0	4.3	2.6	5.9	4.2
Construction materials	3.2	2.3	0.1	0.7	0.5	0.5	0.8	0.4	1.3	0.3	0.2	0.6	1.0	0.9
Wood, paper	1.3	1.1	0.7	0.8	3.9	3.4	0.4	0.3	0.1	-	0.9	0.8	0.6	0.3
Light	3.0	2.8	3.2	3.4			2.7	1.6	4.7	5.0	9.2	7.9	5.2	6.0
Food	1.9	1.4	1.9	2.0	2.1	1.7	2.8	1.4	1.4	1.2	0.8	0.7	3.2	3.6
Total industry	42.0	38.4	26.7	33.3	28.6	30.0	25.1	28.6	31.2	23.8	49.5	53.3	35.5	35.4
C. *From the rest of the world*														
Energy	5.1	5.4	17.1	11.0	7.5	5.1	4.6	4.2	4.2	7.1	6.8	6.4	2.9	3.6
Fuel	0.3	2.7	3.2	2.5			1.4	1.9	5.7	8.1	3.3	9.3	6.1	9.1
Metallurgy	3.1	4.8	3.6	3.6	2.3	5.8	4.7	3.3	7.3	4.5	12.2	3.5	4.9	5.7
Engineering	6.0	12.4	10.2	8.6	5.7	7.9	7.2	5.5	16.2	17.1	16.9	11.4	12.4	9.8
Chemcials	17.0	9.8	4.3	4.6	5.8	7.8	6.2	5.9	13.9	9.4	14.9	7.7	19.9	6.1
Construction materials	3.4	2.3	0.8	0.7	1.4	4.9	1.1	0.6	1.3	1.1	0.5	0.5	0.6	0.7
Wood, paper	2.9	2.4	5.0	15.0	14.5	10.6	1.8	1.7	4.8	1.5	3.3	1.2	3.3	2.3
Light	6.3	4.7	7.5	7.5			6.6	6.2	3.4	3.2	5.2	5.3	2.4	1.7
Food	4.5	3.9	2.6	1.9	1.6	1.1	4.8	4.5	3.9	2.7	0.8	0.7	1.7	2.0
Total industry	48.6	48.4	54.2	55.6	38.8	43.2	38.3	33.9	60.7	54.7	64.0	46.1	54.4	41.0

Source: National statistical publications and ECE secretariat estimates.

(iii) Intra-area investment goods exports

(a) Intra-area exports by country of origin

The previous discussion on intra-area trade in investment goods from the import side can be supplemented by a discussion of intra-area investment goods exports and their structures. However, as a starting point for this discussion, the contribution of individual countries to intra-area flows is first examined.

The share of investment goods in total intra-area exports has remained roughly constant—at about 30 per cent—since the middle of the 1970s, when the first effects of various co-operation and specialization agreements concluded earlier were, presumably, being felt. This in itself says little about progress, or lack of it, in mutual co-operation. Moreover, the stability of the investment goods share of total intra-area exports conceals quite large variations between countries. In eastern Europe, the share of investment goods in the total has risen sharply, reflecting in particular a much faster increase in such exports to the Soviet Union than in either intra-east European exports or in Soviet shipments to eastern Europe. This trend, which has been apparent since the late 1970s but has gathered pace during the 1980s, has several causes. First, the rise in east European expenditure on Soviet fuel is one reason why the six countries have increased exports of all kinds to the Soviet Union. It appears that investment goods have been one category of exports selected for this purpose. Their share in total Soviet imports from eastern Europe rose by 4 percentage points between 1980 and 1983. Second, slow growth, or a declining level, of investment expenditures in eastern Europe has encouraged this option by increasing the exportable surplus of the investment goods-producing industries. In contrast, investment demand continued to expand quite strongly in the Soviet Union during the 1980s.

While the need for such readjustment between the east European countries themselves has played a relatively small role, there are signs of a more intensive development of intra-east European investment goods exchanges. Such goods accounted for a steady 40 per cent of intra-east European exports in the early 1970s; by 1981-1983 this share had risen to about 43 per cent.

Throughout the period since 1975, the German Democratic Republic has been the biggest single supplier of investment goods within the seven country area, furnishing about a quarter of the total in 1983. Czechoslovakia took second place with 19 per cent, followed by Poland, the Soviet Union, Bulgaria,

TABLE 4.5.5

Final-use branch structure of industrial investment goods imports relative to branch shares of investment, by region of origin
(Ratios of investment goods import shares to investment shares)

	Bulgaria		*Czechoslovakia*		*German Dem. Rep.*		*Hungary*		*Poland*		*Romania*		*Soviet Union*	
	1976-1980	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*	*1976-1980*	*1981-1983*
A. *From the world*														
Energy	1.9	1.6	2.0	1.8	1.4	1.7	1.6	2.0	1.0	1.2	1.0	0.9	1.3	1.6
Fuel	0.6	0.9	0.6	0.4			0.5	0.4	0.7	0.6	0.5	0.7	0.4	0.6
Metallurgy	2.0	1.5	0.6	0.9	0.8	0.7	0.7	0.5	0.7	1.3	1.1	1.3	1.1	1.4
Engineering	0.6	0.6	1.0	0.7	0.8	0.7	1.2	1.2	1.2	1.3	1.1	1.3	0.7	0.8
Chemicals	0.9	1.2	0.6	0.9	0.5	0.4	0.6	0.5	1.4	1.0	1.1	0.5	2.6	1.5
Construction materials	0.8	1.1	0.2	0.5	0.6	1.6	0.5	0.4	0.7	0.5	0.1	0.4	0.4	0.5
Wood, paper	0.9	0.9	0.9	1.5	1.7	1.5	1.3	0.7	1.0	0.4	1.0	0.5	0.9	0.8
Light	1.6	1.8	1.6	1.6			1.9	1.8	1.7	2.8	2.4	3.8	2.0	2.7
Food	0.5	0.7	0.8	0.7	0.9	0.9	0.8	0.7	0.6	0.4	0.3	0.2	0.8	1.1
Total industry	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
B. *From eastern Europe and the Soviet Union*														
Energy	2.3	1.9	2.0	2.3	1.6	2.1	2.2	2.7	1.5	1.5	1.2	1.0	2.3	2.2
Fuel	0.7	1.0	0.6	0.5			0.6	0.4	0.8	0.5	0.8	0.6	0.4	0.4
Metallurgy	2.2	1.6	0.6	1.0	0.9	0.6	0.3	0.2	0.6	1.3	0.8	1.4	0.9	0.9
Engineering	0.6	0.5	1.1	0.7	0.9	0.7	1.3	1.3	1.3	1.2	1.3	1.4	0.6	0.7
Chemicals	0.6	1.0	0.4	0.9	0.4	0.2	0.4	0.2	0.5	0.4	0.6	0.4	1.5	1.4
Construction materials	0.8	1.2	0.1	0.6	0.4	0.6	0.5	0.4	1.0	0.4	0.1	0.4	0.6	0.6
Wood, paper	0.8	0.8	0.4	0.3	1.2	1.1	0.7	0.3	0.1	0.1	0.5	0.4	0.4	0.2
Light	1.4	1.6	1.5	1.5			1.5	1.1	2.7	4.1	3.5	3.9	3.4	4.0
Food	0.4	0.5	0.9	0.8	1.0	1.0	0.8	0.4	0.4	0.4	0.3	0.2	1.2	1.5
Total industry	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
C. *From the rest of the world*														
Energy	0.7	0.8	1.9	1.1	0.8	0.5	0.8	0.6	0.6	0.8	0.9	0.8	0.5	0.9
Fuel	0.1	0.5	0.5	0.3			0.3	0.4	0.7	0.7	0.4	1.1	0.5	0.8
Metallurgy	1.2	1.3	0.6	0.7	0.6	1.0	1.3	1.1	0.8	1.4	1.3	0.6	1.3	2.0
Engineering	0.5	0.7	0.8	0.6	0.6	0.7	1.0	1.0	1.1	1.4	1.0	1.1	0.8	0.9
Chemicals	2.4	1.8	0.9	1.1	0.8	1.0	1.0	1.2	2.1	1.8	1.5	1.3	3.3	1.7
Construction materials	0.7	0.9	0.3	0.3	1.0	4.2	0.5	0.5	0.5	0.7	0.2	0.4	0.2	0.4
Wood, paper	1.5	1.3	1.4	3.4	3.3	3.4	2.2	1.5	1.7	0.8	1.4	0.7	1.3	1.4
Light	2.5	2.2	1.7	1.9			2.5	3.5	1.0	1.1	1.5	3.0	1.0	1.0
Food	0.9	1.2	0.6	0.5	0.6	0.5	0.9	1.2	0.6	0.4	0.2	0.2	0.4	0.7
Total industry	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Source: National statistical publications and ECE secretariat estimates.

Hungary and Romania. However, the Soviet Union is the biggest supplier to eastern Europe—over one third (table 4.5.6).

The main change since the mid-1970s has been a fall in the Soviet share of the seven country total, and a corresponding rise in the share of all east European countries but Romania. Thus in 1975, the Soviet share was almost as high as the German Democratic Republic and the Soviet Union also supplied as much as 40 per cent of all east European needs. These shares had both fallen sharply by 1983. Whereas the value of east European supplies to the Soviet Union was already about double the value of Soviet supplies to eastern Europe in 1975, it was over four times as big in 1983.

Another feature, though less marked, is the small but steady rise in the share of Bulgaria, Hungary, and Poland in both totals. However, this has not greatly affected the dominant share of Czechoslovakia and the German Democratic Republic in either intra-eastern European exchanges or in east European exports to the Soviet Union.

(b) Intra-area exports by sector and branch final users

The sector/branch breakdown of investment goods within the seven country area shows a considerable degree of inter-country variation (table 4.5.7). This would be consistent with the varying levels of development of the countries concerned, and consequent differences in the range of investment goods produced and exported. In fact, the industrially most advanced countries of the area (Czechoslovakia and the German Democratic Republic) show the highest degree of concentration on investment goods for industry and engineering in general—the sector and branch with the most highly sophisticated investment goods needs. The partial exception to this is Romania, where the high share of industrial investment goods exports reflects a substantial and long-established concentration on oil extraction equipment.

The low share of industry in Bulgarian and Hungarian exports probably reflect data shortcomings. Hungary reports a substantial proportion of exports of complete plant, which is not broken down by country of destination or by final-users. Hence, these are not reflected in the sector/branch final use data on intra-area exports. It can be assumed that the bulk of this is, in fact, destined for industrial final-users.[461] In Bul-

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[461] If exports of complete plant are included in industry, this sector's share of total Hungarian investment goods export rises from 15.2 to 23.6 per cent in 1976-1980, and from 16.4 to 28.3 per cent in 1981-1983.

TABLE 4.5.6

Mutual trade in investment goods of eastern Europe and the Soviet Union in 1975 and 1983
(Per cent of respective export totals)

Country of origin	Exports to eastern Europe				Exports to the Soviet Union		Exports to eastern Europe and the Soviet Union	
	1975		1983		1975	1983	1975	1983
		a		a				
Bulgaria	3.9	6.4	4.8	7.3	15.5	17.4	9.4	12.2
Czechoslovakia	15.0	24.7	15.7	24.0	21.7	21.2	18.1	18.9
German Democratic Republic	19.9	32.8	21.7	33.2	29.7	27.3	24.5	25.0
Hungary	6.2	10.2	7.5	11.5	11.9	12.0	8.9	10.1
Poland	12.0	19.8	12.8	19.6	15.8	16.8	13.8	15.2
Romania	3.6	5.9	3.0	4.6	5.4	5.2	4.5	4.3
Eastern Europe	60.7	100.0	65.4	100.0	100.0	100.0	79.1	85.7
Soviet Union	39.3	..	34.6	..	–	–	20.9	14.3
Eastern Europe and the Soviet Union	100.0	..	100.0	..	100.0	100.0	100.0	100.0

Source: National statistical publications and ECE secretariat estimates.

[a] Excluding Soviet exports to eastern Europe.

TABLE 4.5.7

Final-use structure of investment goods exports of east European countries and the Soviet Union to each other
(Per cent of totals)

	Bulgaria		Czechoslovakia		German Dem. Rep.		Hungary		Poland		Romania		Soviet Union	
	1976-1980	1981-1983	1976-1980	1981-1983	1976-1980	1981-1983	1976-1980	1981-1983	1976-1980	1981-1983	1976-1980	1981-1983	1976-1980	1981-1983
Energy	8.4	8.3	6.7	7.7	7.8	8.2	1.7	1.7	11.4	12.2	12.4	11.0	11.0	19.3
Fuel	–	0.3	1.1	2.0			0.2	–	1.9	3.1	14.2	21.2	5.6	5.0
Metallurgy	–	–	3.1	4.6	2.1	2.7	1.2	1.0	2.5	2.3	2.1	3.9	3.8	3.6
Engineering	3.0	3.4	8.1	6.9	10.8	11.2	5.0	5.3	3.1	5.6	9.3	9.9	7.3	5.6
Chemicals	0.2	0.7	5.1	4.4	6.4	5.0	1.7	1.8	6.9	4.6	2.3	3.9	2.6	2.0
Construction materials	0.6	0.8	0.8	1.4	1.1	1.2	0.2	1.5	1.0	0.7	0.2	0.1	1.3	0.5
Wood, paper	0.2	0.4	0.7	–	5.6	5.5	–	–	1.9	1.6	0.1	0.1	0.5	0.9
Light	1.1	1.3	11.2	12.6			1.4	1.2	3.2	2.5	0.6	1.6	2.9	2.3
Food	1.3	1.9	2.0	1.9	3.8	4.3	3.6	4.0	4.0	4.1	–	–	0.9	0.6
Industry, total	14.9	17.0	38.8	41.5	37.5	38.1	15.2	16.4	35.8	36.7	41.3	51.8	35.9	39.8
Construction	0.2	0.1	1.7	3.0	1.7	2.6	0.2	0.1	5.7	5.6	4.4	3.8	5.6	4.6
Agriculture	9.3	7.0	5.3	5.4	12.0	12.8	5.9	4.9	5.5	4.9	8.5	4.8	14.9	16.6
Transport, communications	13.1	11.3	42.6	40.0	26.2	27.2	54.5	53.3	33.0	30.5	42.2	34.5	32.7	28.7
Other	34.4	33.5	5.5	2.8	10.7	8.2	8.9	8.5	12.8	11.9	2.8	2.2	4.6	4.5
Total material sphere	71.9	69.0	94.1	92.8	88.0	89.0	84.7	83.2	92.8	89.6	99.2	97.1	93.8	94.2
Non-material sphere	28.1	31.0	5.9	7.2	12.0	11.0	15.3	16.8	7.2	10.4	0.8	2.9	6.2	8.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National statistical publications and ECE secretariat estimates

garia, the size of investment goods exports classified here under "other" material sphere is also very high. Data shortcomings may result in the inclusion there of a higher proportion of shipments for industrial final-users than in other countries.

These two exceptions apart, investment goods for *industrial* final-users accounted for a fairly general 35-40 per cent of investment goods exports to the other countries of the area by most eastern European countries and the Soviet Union. Industry's share rose between the two sub-periods in all the countries under review. *Transport and communications* equipment occupied second place in most countries throughout the period, but its share generally fell in the early 1980s.

The final user breakdown shown already gives some idea of the structure of specialization in investment goods exports within the area. Bulgaria is notable for the high share of goods classified as equipment for non-material sphere activities—as defined here, consisting mainly of office machinery and computers and other electronic equipment. The bulk of this was sold to the Soviet Union. Other important groups include equipment for *light industry* by Czechoslovakia (which accounted for more than 40 per cent of the total traded within the area in 1983), *agricultural equipment* by the German Democratic Republic and the Soviet Union, *construction equipment* by Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union and *food industry equipment* by the German Democratic Republic, Hungary and Poland. A noteworthy difference relative to imports from the rest of the world is the small share of *chemical industry* equipment in total intra-area investment goods exports.

(c) Concentration and structural change in intra-area investment goods trade

The following paragraphs examine the extent to which moves towards closer industrial co-operation and specialization within the region have been accompanied by changes in the degree of concentration by individual countries on exports of investment goods for specific final users and by changes in the overall structure of such exports. In order to assess this, the more detailed specification of final use sector/branch data listed in subsection (i) has been used. (It is recalled that the data cover 20 sectors and industrial branch final-users compared with the 14 shown in tables 4.5.2-4.5.7.) Since the engineering industry is the branch of origin of virtually all investment goods, this specification thus gives, in effect, a rather detailed breakdown of investment goods exports within the area originating in the seven countries' engineering branches (excluding non-investment goods items such as passenger transport means and consumer durables).

An attempt is made to explore the nature and extent of changes in the commodity composition of intra-area investment goods trade from a number of different angles. First, Hirschman coefficients are used to describe changes in the *concentration* of investment goods exports in the various final user groupings between 1975 and 1983. Second, since these coefficients illustrate only the concentration/diversification aspects of changes in the commodity composition of investment goods exports, a more general indicator of *structural changes* is also used to quantify overall changes in the share of final use commodity groups over the same period. Third, trade "specialization coefficients" are derived to identify those commodity groups which constituted a larger share of an individual country's total investment goods imports than those groups' share in aggregate intra-area exports. Finally, *changes in the share of such goods* in each country's intra-area investment goods trade between 1975 and 1983 are examined. It is thus possible to determine whether or not commodities in which a given country specialized in 1975 have increased their share in that country's total investment goods exports to other countries within the area.

The Hirschman concentration coefficients in table 4.5.8 show the evenness of distribution of each country's trade between the constituent commodity groups. The higher the value of the coefficient, the greater the degree of concentration (a value of 100 would show that all exports of a given country belong to one commodity group). The lower the coefficient, the greater the degree of diversification.[462]

The table shows that the degree of concentration within exports varied noticeably between countries in 1975. Not surprisingly, the German Democratic Republic, the Soviet Union and Czechoslovakia—the three countries with the biggest engineering industries and which are the leading intra-area suppliers—were also those where the degree of concentration was lowest. By 1983, a further substantial degree of diversification had apparently occurred in Czechoslovakia, Poland and, to a much smaller extent, Romania, but little or no change is apparent in the case of the German Democratic Republic or of the other countries. Somewhat surprisingly, by that year Poland was the country showing the highest degree of diversification, followed by Czechoslovakia, the German Democratic Republic and the Soviet Union.

TABLE 4.5.8

Concentration of intra-area investment goods exports [a]
(Hirschman coefficients)

	1975	*1980*	*1983*
Bulgaria	45	48	46
Czechoslovakia	39	38	34
German Democratic Republic	35	32	34
Hungary	45	47	45
Poland	41	36	33
Romania	45	37	41
Soviet Union	35	36	36

Source: National statistical publications and ECE secretariat estimates.

Note: Minimum value of H (lowest degree of trade concentration) = 22.4.

[a] Based on 20 commodity groups.

Structural change indices were also derived in order to compare the extent of each country's total investment goods exports affected by shifts from one commodity group to another between 1975 and 1983 (table 4.5.9).[463]

The results suggest that structural changes were biggest in Romania and, though to a much smaller extent, in Bulgaria and Poland up to the year 1980. Since these three countries are the least economically developed among the seven, a somewhat more rapid change than elsewhere is not surprising as new lines of production were developed. However, since 1980, the movements on an average annual basis have been smaller than in 1976-1980 in all countries but Czechoslovakia and the Soviet Union. There was little further change in Poland, while in Bulgaria, Hungary and Romania some reversion to the 1975 pattern is apparent. Over the whole period, the above indices show that the process of structural change in investment goods exports was biggest in Poland, Romania and the Soviet Union.

There is no normative way of judging the size of the above movements in the index of structural change. However, they can be considered rather modest in most cases up to 1980 on one criterion. The same index was calculated for each of the seven countries' intra-area exports and imports and also for imports of investment goods from the rest of the world. The change was found to be substantially bigger for imports from the rest of the world (by 2-15 points) than the corresponding intra-area import index for all countries reviewed but Romania between 1975 and 1980. By 1983, the amount by which the index for imports from the rest of the world exceeded that for intra-area imports ranged between 6-7 points in Poland and the Soviet Union, and between 14 and 25 percentage points in Bulgaria, the German Democratic Republic, Hungary and Romania. In Czechoslovakia, both indices had changed about the same amount (20-21 points). For most countries, this might suggest that it has been relatively hard to adjust the structure of intra-area investment goods export production and trade. It seems to have been easier to adjust the composition of investment goods imports from the rest of the world in order to meet unforeseen requirements of whatever kind.

A comparison of the concentration coefficients with the structural change index can show whether structural change has been accompanied by greater concentration or greater diversification of investment goods exports. For a given degree of

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[462] The coefficient H is defined as $H = \sqrt{q_i^2}$, where q_i is the percentage share of the commodity group i in a country's total intra-area exports. The maximum value of H is 100 and its minimum value is $100/\sqrt{n}$, where n is the number of commodity groups; when $n = 20$, the case here, the minimum value is 22.4 (which would show that all commodity groups accounted for the same share of the total).

[463] Structural change indices are derived from the formula:

$$0.5 \sum_i |a_{in} - a_{io}|$$

where a_{in}, a_{io} are percentage shares of commodity group i in year n and in the base year o, respectively.

TABLE 4.5.9

Indices of structural change in investment goods trade [a]

(Changes since base year 1975)

	Intra-area exports		*Intra-area imports*		*Imports from rest of world*	
	1980	*1983*	*1980*	*1983*	*1980*	*1983*
Bulgaria	13	9	9	11	21	26
Czechoslovakia	8	15	18	22	33	21
German Democratic Republic	8	12	13	18	26	43
Hungary	8	7	17	17	27	31
Poland	12	18	15	14	17	21
Romania	27	25	12	19	9	36
Soviet Union	8	19	14	14	14	20

Source: National statistical publications and ECE secretariat estimates.

[a] Based on 20 commodity groups.

structural change, the concentration coefficient can either rise or fall (i.e., the structural change may reflect either growing concentration or growing diversification). Moreover, for a given structural change, the coefficient can vary; if the shift occurs between large (or between small) components, it will be smaller than if it occurs between large and small components. Taking the countries in which structural change was biggest between 1975 and 1983—Romania and the Soviet Union—it can be seen that it was accompanied by a growing *diversification* of investment goods exports only in the former country. In the Soviet Union, in contrast, there was an increasing degree of *concentration*, which reflected a shift from transport to energy equipment—both of which were already major final users in total investment goods imports. Hence, the structural change which occurred did not result in a rise in the share of the smaller Soviet investment goods export components. Czechoslovakia and Poland were, in fact, the only countries where relatively big structural changes were accompanied by a significant degree of diversification of intra-area investment goods exports. In Bulgaria, the German Democratic Republic and Hungary, low rates of structural change were accompanied by only minor changes in the degree of concentration or diversification.

(d) *The country specialization pattern of intra-area investment goods exports*

Intra-area specialization became a prime concern of trade policy after 1971, when measures were also taken to ensure the closer co-ordination of five-year plans between the seven countries under review. Little information is available on the intended effects on the structure of mutual trade in investment goods. In 1978 and 1979, five long-term target-oriented programmes were adopted within the CMEA framework to intensify co-operation in energy, fuel and raw materials; agriculture and the food industries; mechanical engineering; industrial consumer goods production; and the further integration of transport systems. Since then, the scope of these agreements has been extended and new agreements concluded in other fields—notably co-operation in accelerating the rate of introduction of scientific and technological innovation.

Clearly, the implementation of these agreements would also have consequences on the structure of trade in general, though since their combined scope is broad, it is difficult to pinpoint individual priority areas. Specialization would entail changes in the structure of intra-area shipments of all kinds as specialization took effect. But a more rapid impact might be expected on the levels and structures of investment goods trade, in line with efforts to expand and alter the production base as a first step in increased co-operation. In fact, the engineering industries, the main producers of investment goods, are responsible for most of the trade in goods based on product specialization.[464]

As a further step in quantifying the changes in investment goods export structures, those final user sub-groups in which individual countries appear to have specialized to some extent were first extracted. A sub-group was selected if it accounted for a greater share in a given country's exports to the other six countries of the area than the sub-group's share in the total intra-area exports of all seven countries.

The resulting ratio, termed here the "specialization coefficient", is deemed to indicate some degree of specialization by the country concerned in that commodity if it is greater than unity.[465] The object was, first, to find the sub-groups in which each country already specialized (in the sense described above) in the base year selected (1975); the extent to which the degree of specialization in that item rose or fell between 1975 and 1983 (as evidenced by rises or falls in the size of the coefficents); and finally, as a general indicator of progress in specialization, to find whether the share of these sub-groups as a whole in each country's total intra-area exports had risen or fallen between the same years.

The use of specialization coefficients on aggregated data can conceal important detail. In the first place, goods allocated to the various final user categories specified are not necessarily homogeneous. The size of the coefficients will not fully reflect the extent of specialization in constituent sub-items, some of which may not show up at all. The widely different items classified under transport equipment in particular should be recalled. Secondly, the existence of spurious coefficients of this type, particularly in a sector as important in intra-area exchanges as is transport, may distort the coefficient for other commodity groupings. On the other hand, increasing specialization must ultimately affect the coefficients.

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[464] According to a CMEA source, engineering goods account for about 82 per cent of all "products of specialization". See A. Chaushev: "Vneshyaya torgovlya v 1982 g: tempy, struktura, tendentsiya" (Foreign trade in 1982: Rates, Structures and Trends), *Ekonomicheskoye sotrudnichestvo stran-chlenov SEV*, No. 8, 1983.

[465] The formula used to derive the coefficient (S) for a given year is as follows:

$$S = (X_i^c/X^c)\,(X/X_i)$$

where X_i^c = exports of an investment commodity i by country c to the other six countries,

X^c = country's total investment goods exports to the other six countries

X_i = total exports of investment good commodity i by the seven countries to each other

X = total exports of investment goods by the seven countries to each other.

TABLE 4.5.10

Investment goods export sub-groups, by final-use sectors and branches, with a specialization coefficient greater than unity in 1975 which remained constant or increased up to 1983, by exporting country in 1975 and 1983 [a]

	1975		*1983*	
Final sector or branch users	*Share of investment goods exports (Per cent)*	*Coefficient*	*Share of investment goods exports (Per cent)*	*Coefficient*
Bulgaria				
"Other" material sphere	29.8	2.79	32.1	3.34
Office equipment and computers	28.8	3.81	29.6	3.92
Total	58.6	3.20	61.7	3.60
Czechoslovakia				
Chemicals	5.3	1.31	4.4	1.32
Construction materials	1.3	1.02	1.3	1.21
Light	9.0	2.36	12.8	2.89
Pipes	6.9	1.62	9.7	2.72
Total	22.5	1.70	28.2	2.30
German Democratic Republic				
Engineering	10.0	1.54	11.6	1.58
Chemicals	4.5	1.11	3.9	1.19
Food	3.3	1.41	4.4	1.49
Agriculture	11.6	1.25	13.6	1.48
Total	29.4	1.30	33.5	1.50
Hungary				
Transport	39.2	1.36	40.1	1.73
Poland				
Mining	1.7	1.37	3.3	2.18
Food	3.1	1.31	3.9	1.32
Construction	4.2	1.96	5.5	1.96
"Other" material sphere	11.8	1.10	12.4	1.30
Total	20.8	1.30	25.1	1.50
Romania				
Oil extraction	5.9	8.33	22.1	14.12
Transport	37.9	1.31	31.1	1.33
Pipes	4.2	1.00	3.7	1.02
Total	48.0	1.40	56.9	2.00
Soviet Union				
Energy	9.0	1.30	23.0	2.45
Wood, paper	0.5	1.16	0.5	1.66
Agriculture	15.1	1.64	16.6	1.81
Total	24.6	1.50	40.1	2.10

Source: National statistical publications and ECE secretariat estimates.

[a] Group 1 (see also definition in text).

Table 4.5.10 presents investment goods exports subgroups where specialization coefficients were (a) above unity in 1975 and (b) remained constant or rose between 1975 and 1983. The sum of these items will be referred to as "Group 1". The items comprising this group are, of course, the same for 1983 as for 1975.

The number of items appearing for each country in the table is, in fact, rather small and there is little duplication between countries. They confirm rather precisely the patterns of specialization based on final use structures signalled in the text at the end of part (b) above of this subsection.

Transport shows a coefficient above unity in both years examined only for Hungary and Romania. However, it is likely that a good deal of the transport specialization which has been achieved would appear more clearly and for more countries if more detailed data were available at subsectoral and branch levels. The same probably applies to the investment goods exports for the engineering branches by Czechoslovakia and perhaps Poland. The small number of final user items, which ranges between 1 and 4 subgroups per country, also reflects the degree of aggregation of the data: some groups are very big.

In two countries, Bulgaria and Romania, the Group 1 aggregate accounted for more than half of the two countries' total intra-area investment goods exports in 1983. The share rose to over 40 per cent in Hungary and the Soviet Union, but was low in Czechoslovakia and Poland — under 30 per cent—and also in the German Democratic Republic (34 per cent).

A further group should also be considered, consisting of subgroups where the specialization coefficient rose from below unity to above unity between 1975 and 1983 (hereafter termed "Group 2"). As shown in table 4.5.11, Group 2 was small to very small in all countries but the German Democratic Republic, where it accounted for only a slightly smaller share of total investment goods exports than did Group 1. [466]

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[466] The extra items concerned for the German Democratic Republic are investment goods exports for the metallurgical and construction materials branches, for construction and also transport equipment, and, for Poland, communications equipment. For the Soviet Union, pipes and communications equipment also show a specialization coefficient greater than unity in 1983 but not in 1975.

TABLE 4.5.11

Investment goods export groups with specialization coefficients greater than unity in 1983, by exporting country in 1975 and 1983
(*Percentage of each country's intra-area investment goods exports and coefficients*)

Final sector or branch users	1975 Share of investment goods exports (Per cent)	1975 Coefficient	1983 Share of investment goods exports (Per cent)	1983 Coefficient
Bulgaria				
Group 1[a]	58.6	3.2	61.7	3.6
Group 2[b]	0.9	0.7	1.3	1.3
Total	59.5	3.2	63.0	3.6
Czechoslovakia				
Group 1[a]	22.5	1.7	28.2	2.3
Group 2[b]	0.5	0.9	1.0	1.6
Total	23.0	1.7	29.2	2.3
German Democratic Republic				
Group 1[a]	29.4	1.3	33.5	1.5
Group 2[b]	27.5	0.8	31.2	1.1
Total	56.9	1.1	64.7	1.3
Hungary				
Group 1[a]	39.2	1.4	40.1	1.7
Group 2[b]	–	–	0.8	2.7
Total	39.2	1.4	40.9	1.8
Poland				
Group 1[a]	20.8	1.3	25.1	1.5
Group 2[b]	3.1	0.8	5.2	1.1
Total	23.9	1.3	30.3	1.4
Romania				
Group 1[a]	48.0	1.4	56.9	2.0
Group 2[b]	2.7	0.7	3.7	1.1
Total	50.7	1.3	60.6	1.9
Soviet Union				
Group 1[a]	24.6	1.5	40.1	2.1
Group 2[b]	4.3	0.9	3.1	1.1
Total	28.9	1.4	43.2	2.0

Source: National statistical publications and secretariat estimates.

[a] Coefficient greater than unity in 1975 and rising to 1983

[b] Coefficient lower than unity in 1975 rising to greater than unity in 1983.

Perhaps the most important feature of the above exercise is the light it can shed on the overall progress of specialization over time.[467] Increased specialization is more likely to take place when trade flows are rising rapidly, but rapid growth will not guarantee it. Increasing specialization may, in principle, occur against a background of generally decelerating or even declining overall export flows; in particular, it may concern commodity groups which themselves grow slower than exports as a whole.

As noted earlier, the Group 1 aggregate increased as a *share* of total investment goods exports in all seven countries. As is apparent from table 4.5.10, all the individual subgroups in Group 1 grew faster than total intra-area investment goods exchanges. This is broadly true of the much smaller Group 2 category also—except in the Soviet Union. In aggregate, the two groups together rose from about 30 to about 40 per cent of the total of the seven countries' intra-area investment goods exports between 1975 and 1983.

The much bigger share of Group 1 compared with Group 2 suggests that there has been a tendency in all seven countries to specialize further in those classes of investment goods where some degree of specialization was already evident in 1975. But the concomitant rise in the share of Group 2 (except in the Soviet Union) suggests that new lines of specialization have also been developed especially in the German Democratic Republic and, though to a much smaller extent, in Poland and Romania.

The above remarks give some idea of the spread and development of "specialization" revealed by the specialization coefficients. A final comment concerns the "depth" of such specialization, which can be approached by considering the size of the coefficients themselves.

The size of the coefficient for the total of Groups 1 and 2 was highest in Bulgaria, Czechoslovakia, Romania and the Soviet Union (2.0-3.6) by 1983. Relatively low coefficients in the German Democratic Republic may result from the fact that the relatively big spread of individual types of investment goods produced in what is the most industrially developed of the east European countries is not fully reflected at the level of aggregation used here. In general, average specialization coefficients for the Group 1 aggregate are bigger than those for Group 2. Thus, in most countries the specialization effort appears to have been concentrated on those commodities where specialization was most advanced in 1975.

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[467] This depends first on the accuracy of Group 1 and 2 as indicators of specialization in a given year. Some broadly confirmatory evidence from a CMEA study is, in fact, available for the year 1982. This reports the shares of *total* intra-area exports of all kinds resulting from product specialization in individual countries in that year. However, no details are given as to how the products themselves were selected, or how "specialization" was defined (A. Chaushev, *loc. cit.*).

Statistical appendices

INTRODUCTORY NOTE

For the user's convenience, as well as to lighten the text, the *Economic Survey of Europe* includes a set of appendix tables showing annual changes in main economic indicators over a longer time period (1970-1985).

The data are presented in three sections, following the structure of the text: *Appendix A* provides macro-economic indicators for the ECE market economies, *Appendix B* does the same for the ECE centrally planned economies, and *Appendix C* collates time series on world trade and the development of foreign trade of the ECE countries.

Except where otherwise stated, time series reflect levels or change in *real terms*, i.e., at constant prices in case of series measured in value terms.

Data were compiled from international (United Nations, OECD, CMEA) or national statistical sources, as indicated in the notes to individual tables.

Regional aggregations are ECE secretariat calculations, based on 1975 US dollar weights in the case of the market economies and on CMEA estimates of relative per-capita levels in the case of the centrally planned economies.

All figures for 1985 are preliminary estimates, based on data available in the first weeks of February 1986.

Appendix A. Western Europe and North America

APPENDIX TABLE A.1

Gross domestic product

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	5.7	5.4	5.9	5.4	3.2	0.2	5.2	3.1	3.8	3.3	1.1	0.5	1.8	0.7	1.3	1.0
Germany, Federal Republic of [a]	5.0	3.0	4.2	4.7	0.2	−1.4	5.6	2.7	3.3	4.0	1.5	–	−1.0	1.5	2.7	2.5
Italy	5.3	1.6	3.2	7.0	4.1	−3.6	5.9	1.9	2.7	4.9	3.9	0.2	−0.5	−0.4	2.6	2.4
United Kingdom	2.2	2.7	2.3	7.9	−1.1	−0.7	3.9	1.0	3.6	2.2	−2.3	−1.4	1.5	3.4	1.8	3.4
Total 4 countries	4.7	3.4	4.1	5.9	1.4	−1.2	5.2	2.3	3.4	3.6	1.0	−0.1	0.4	1.3	2.1	2.2
Austria	7.1	5.1	6.2	4.9	3.9	−0.4	4.6	4.4	0.5	4.7	3.0	−0.1	1.2	2.1	2.0	3.0
Belgium	6.7	3.7	5.3	6.0	4.2	−1.4	5.4	0.5	3.1	2.1	3.8	−1.4	1.5	−0.1	1.3	1.7
Denmark	2.3	2.4	5.4	3.8	−0.7	−1.0	6.5	2.3	1.8	3.7	−0.4	−0.9	3.0	2.1	3.5	2.0
Finland	7.5	2.1	7.6	6.7	3.0	1.2	0.3	0.2	2.6	7.4	5.6	1.9	2.8	3.0	3.0	3.5
Ireland	3.2	3.4	6.5	4.7	4.2	3.7	1.4	8.2	7.2	3.1	3.1	2.6	0.8	–	4.4	2.5
Netherlands	6.7	4.3	3.4	5.7	3.5	−1.0	5.3	2.4	2.5	2.4	0.9	−0.7	−1.4	0.9	1.7	2.0
Norway	2.0	4.6	5.2	4.1	5.2	4.2	6.8	3.6	4.5	5.1	4.2	0.9	0.3	3.9	3.8	4.4
Sweden	7.2	0.9	2.3	4.0	3.2	2.6	1.0	−1.6	1.8	3.8	1.7	−0.3	0.8	2.4	3.4	2.2
Switzerland	6.4	4.1	3.2	3.0	1.5	−7.3	−1.4	2.4	0.4	2.5	4.6	1.5	−1.1	0.7	2.1	3.7
Total 9 countries	6.0	3.3	4.4	4.8	3.0	−0.7	3.4	1.7	2.2	3.5	2.6	−0.1	0.6	1.6	2.5	2.6
Total western Europe	5.0	3.4	4.2	5.6	1.8	−1.1	4.7	2.1	3.1	3.6	1.4	−0.1	0.4	1.4	2.2	2.3
Greece	8.0	7.1	8.9	7.3	−3.6	6.1	6.4	3.4	6.7	3.7	1.8	−0.3	−0.2	0.3	2.8	1.8
Portugal	9.1	6.6	8.0	11.2	1.1	−4.3	6.9	5.6	3.4	6.2	4.5	0.4	3.5	−0.3	−1.7	2.5
Spain	4.1	5.0	8.1	7.9	5.7	1.1	3.0	3.3	1.8	0.2	1.5	0.4	0.9	2.2	2.2	1.7
Turkey	4.9	9.1	6.6	2.0	12.5	10.1	10.8	5.1	3.2	−1.7	−0.3	4.5	5.7	3.0	5.9	4.0
Yugoslavia [b]	7.2	8.1	4.2	5.0	8.5	3.6	3.9	8.0	6.9	7.0	2.3	1.5	0.7	−1.3	2.0	1.0*
Total southern Europe	5.4	6.4	7.4	6.7	5.8	3.0	5.1	4.5	3.4	1.7	1.6	1.2	1.8	1.4	2.6	2.0
Total Europe	5.1	3.7	4.5	5.7	2.2	−0.6	4.8	2.4	3.1	3.3	1.4	0.1	0.6	1.4	2.3	2.3
United States [a]	−0.3	2.8	5.0	5.2	−0.5	−1.3	4.9	4.7	5.3	2.5	−0.2	1.9	−2.5	3.4	6.6	2.3
Canada [a]	2.5	6.9	6.1	7.5	3.6	1.2	5.8	2.0	3.6	3.2	1.1	3.3	−4.4	3.3	5.0	4.0
North America [a]	−0.1	3.2	5.1	5.4	−0.2	−1.0	5.0	4.4	5.1	2.5	−0.1	2.1	−2.7	3.4	6.5	2.5
Total above	2.4	3.4	4.8	5.6	1.0	−0.8	4.9	3.4	4.1	2.9	0.7	1.1	−1.1	2.4	4.4	2.4

Sources: National statistics; and for southern Europe, OECD *National Accounts*, vol. II. Data are calculated in 1975 market prices and exchange rates.

[a] GNP

[b] Social product

APPENDIX TABLE A.2

Private consumption

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	4.3	6.3	6.1	5.6	3.2	3.2	5.5	3.2	4.7	3.4	1.5	2.0	3.4	1.0	0.7	1.3
Germany, Federal Republic of	7.6	5.2	4.5	3.1	0.7	3.2	3.7	4.3	3.8	3.6	1.2	-0.5	-1.3	1.1	0.6	1.7
Italy	7.3	2.9	3.4	5.8	2.6	-1.4	3.5	2.3	3.0	5.3	4.3	0.5	0.5	-0.3	1.8	2.3
United Kingdom	2.7	3.1	6.1	5.1	-1.4	-0.7	0.3	-0.5	5.5	4.7	-0.4	-0.3	0.7	4.0	1.7	2.5
Total 4 countries	5.6	4.6	5.1	4.7	1.3	1.6	3.5	2.7	4.3	4.0	1.5	0.5	0.8	1.3	1.0	1.8
Austria	4.2	6.7	6.1	5.4	3.0	3.2	4.5	5.7	-1.6	4.6	1.5	0.4	1.4	5.4	-0.8	2.5
Belgium	6.4	4.8	6.2	7.8	2.7	0.6	4.7	2.4	2.8	4.4	1.6	-0.2	1.0	-1.5	0.8	0.2
Denmark	3.0	-0.6	1.6	5.7	-2.5	3.6	7.9	2.0	1.0	7.7	-3.7	-2.3	1.4	1.7	2.7	2.5
Finland	7.6	1.7	8.4	5.9	1.8	3.1	0.9	-1.2	2.8	5.6	1.9	1.4	4.1	2.7	3.0	3.0
Ireland	2.8	3.2	5.2	7.1	1.7	-0.8	2.8	6.8	9.0	4.4	0.4	1.4	-5.8	-2.0	-0.5	1.8
Netherlands	7.7	3.0	3.2	3.9	2.7	3.4	5.7	6.4	4.3	3.0	–	-2.5	-1.2	0.4	-0.5	1.5
Norway	-2.4	4.6	2.9	2.9	3.9	5.1	6.1	6.9	-1.6	3.2	-0.1	1.1	1.8	1.2	1.5	7.5
Sweden	6.9	0.1	3.4	2.6	3.4	2.2	4.1	-1.0	-0.7	2.4	-0.9	-0.7	1.3	-1.8	1.3	2.8
Switzerland	5.4	4.8	5.4	2.8	-0.5	-2.9	1.1	3.0	2.2	1.3	2.6	0.4	–	1.6	1.3	1.7
Total 9 countries	5.5	3.0	4.5	4.6	1.9	1.8	4.4	3.2	1.8	3.7	0.4	-0.6	0.6	0.6	0.9	2.2
Total western Europe	5.5	4.2	4.9	4.7	1.4	1.7	3.8	2.8	3.6	3.9	1.3	0.2	0.8	1.2	1.0	1.9
Greece	8.8	5.6	7.0	7.6	0.7	5.5	5.3	4.6	5.7	2.6	-0.3	0.9	2.6	0.6	1.1	0.7
Portugal	2.6	12.7	4.0	12.0	9.7	-0.9	3.5	0.6	-1.7	0.9	3.2	2.3	2.0	-1.0	-3.0	0.5
Spain	4.2	4.9	8.3	8.0	5.2	2.4	4.7	2.5	1.3	1.2	1.3	-0.9	0.7	0.7	-0.8	1.0
Turkey	2.2	13.5	6.4	1.1	8.0	8.5	9.9	6.0	-1.1	-3.2	-5.1	0.6	4.1	4.9	5.0	3.7
Yugoslavia	14.6	8.3	4.6	2.7	7.3	3.4	4.4	7.0	7.0	5.6	0.7	-1.0	-0.1	-0.6	-1.0	-1.5
Total southern Europe	5.2	7.7	7.0	6.3	5.9	3.8	5.7	3.8	1.6	0.9	-0.1	-0.2	1.6	1.3	0.4	1.2
Total Europe	5.5	4.6	5.2	4.8	2.0	1.9	4.0	2.9	3.4	3.5	1.1	0.2	0.9	1.2	0.9	1.8
United States	2.4	3.1	5.4	4.2	-0.9	2.3	5.4	4.4	4.1	2.2	-0.2	1.2	1.3	4.6	4.4	3.2
Canada	2.3	7.9	7.6	6.7	5.1	5.2	6.4	2.4	2.6	2.0	1.0	1.7	-2.0	3.1	3.7	4.0
North America	2.4	3.5	5.6	4.4	-0.4	2.5	5.5	4.2	4.0	2.2	-0.1	1.2	1.0	4.5	4.3	3.3
Total above	3.9	4.1	5.4	4.6	0.8	2.2	4.7	3.6	3.7	2.8	0.5	0.7	0.9	2.9	2.7	2.6

Sources: National statistics; and for southern Europe, OECD *National Accounts*, vol. II. Data are calculated in 1975 prices and exchange rates.

APPENDIX TABLE A.3

Public consumption

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	4.2	3.5	2.7	3.2	1.2	4.7	6.2	1.4	4.3	1.8	1.8	2.4	2.4	1.5	0.3	1.1
Germany, Federal Republic of	4.4	5.2	4.2	5.0	4.0	3.7	1.5	1.4	3.8	3.4	2.6	1.8	−0.8	0.3	2.4	2.2
Italy	3.3	5.8	5.3	2.1	3.1	3.3	2.6	2.3	2.3	1.7	2.1	3.3	2.6	2.4	2.7	1.9
United Kingdom	1.6	3.0	4.2	4.9	1.5	5.5	1.3	−1.7	2.3	2.4	1.3	−0.1	0.9	1.9	1.0	0.2
Total 4 countries	3.5	4.3	4.0	4.2	2.7	4.3	2.6	0.8	3.3	2.6	2.1	1.7	0.7	1.2	1.6	1.5
Austria	3.3	3.3	4.1	3.0	5.7	4.0	4.3	3.6	3.8	3.2	2.5	2.0	2.3	2.2	0.9	1.5
Belgium	10.7	5.9	5.9	5.3	3.8	4.7	4.0	2.7	5.9	2.7	1.6	1.2	−1.4	0.5	−0.2	0.5
Denmark	6.9	5.5	5.7	4.0	3.5	2.0	4.5	2.4	6.2	4.9	4.3	2.6	3.1	−0.6	−0.6	0.7
Finland	5.4	5.8	7.8	5.6	4.5	6.9	5.7	4.3	4.1	3.7	4.4	4.0	3.6	4.0	3.8	3.0
Ireland	7.4	8.7	7.1	6.8	7.5	12.4	2.7	2.0	8.2	4.6	7.1	0.5	3.9	−0.1	−1.2	0.5
Netherlands	6.0	3.3	1.8	0.7	2.0	3.9	4.0	0.2	3.9	2.8	0.6	2.0	0.6	1.0	−1.5	0.5
Norway	6.3	6.0	4.5	5.5	4.0	6.4	7.4	4.9	5.3	3.5	0.1	6.1	3.9	3.7	2.0	3.2
Sweden	19.3	2.2	2.4	2.6	3.1	5.9	3.5	3.0	3.2	4.8	2.3	2.2	0.9	0.8	2.0	0.9
Switzerland	4.8	5.8	2.9	2.4	1.6	0.7	2.7	0.5	2.0	1.1	0.9	2.5	1.0	3.8	1.7	2.0
Total 9 countries	9.4	4.2	3.9	3.2	3.3	4.5	4.2	2.4	4.3	3.6	2.1	2.4	1.4	1.4	0.7	1.2
Total western Europe	5.0	4.3	4.0	3.9	2.9	4.4	3.0	1.2	3.6	2.9	2.1	1.9	0.9	1.3	1.4	1.4
Greece	5.9	4.9	5.7	6.8	12.1	11.9	5.1	6.5	3.5	5.8	0.2	6.8	1.9	2.5	3.9	4.9
Portugal	7.0	6.4	8.6	7.8	17.3	6.6	7.0	11.8	4.3	8.9	6.5	3.4	4.7	2.2	1.8	3.0
Spain	5.2	4.7	5.5	6.7	8.2	5.3	5.3	4.1	5.5	4.2	4.4	1.5	6.5	4.1	3.0	3.0
Turkey	3.6	6.1	7.3	10.3	9.9	13.5	10.8	3.2	9.9	1.6	8.8	0.8	2.1	1.8	3.8	2.2
Yugoslavia [a]	9.3	−0.1	5.1	4.1	7.3	9.3	9.5	7.4	6.5	4.5	−1.0	−4.8	−0.7	1.0	−0.2	−2.0
Total southern Europe	5.8	4.4	6.0	7.0	9.8	8.2	7.0	5.5	6.0	4.5	4.0	1.5	3.9	2.9	2.8	2.6
Total Europe	5.1	4.3	4.1	4.1	3.3	4.6	3.3	1.5	3.8	3.0	2.2	1.9	1.1	1.4	1.5	1.5
United States	3.2	1.1	0.7	0.9	1.4	1.3	−0.1	1.5	2.5	0.8	1.9	1.5	1.9	1.0	4.3	5.8
Canada	10.4	4.1	3.1	4.6	4.0	4.0	0.9	3.2	1.7	0.3	0.4	2.5	0.7	0.6	2.6	2.5
North America	−2.3	−0.7	0.9	−0.5	1.6	1.6	–	1.7	2.5	0.8	1.8	1.6	1.8	0.9	4.2	5.6
Total above	0.6	1.4	2.3	1.5	2.3	2.9	1.5	1.6	3.1	1.8	2.0	1.7	1.5	1.1	2.9	3.7

Sources: National statistics; and for southern Europe, OECD *National Accounts*, vol. II. Data are calculated at 1975 prices and exchange rates.

[a] Collective consumption.

APPENDIX TABLE A.4

Gross domestic fixed capital formation

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	4.6	7.1	7.2	6.1	0.9	−3.2	3.7	−0.8	1.5	3.7	3.2	−1.1	0.7	−2.3	−2.2	0.2
Germany, Federal Republic of	9.4	6.1	2.7	−0.3	−9.6	−5.3	3.6	3.6	4.7	7.2	2.8	−4.8	−5.3	3.2	0.8	−0.8
Italy	3.0	−3.2	0.9	7.7	3.3	−12.7	2.3	−0.4	−0.1	5.8	9.4	0.6	−5.2	−3.8	4.1	4.5
United Kingdom	2.6	1.9	−0.3	7.2	−4.1	0.2	1.5	−2.6	3.9	2.1	−5.2	−9.4	6.4	4.6	8.2	4.2
Total 4 countries	5.8	4.2	3.2	3.9	−3.7	−4.8	3.1	0.5	2.9	5.1	2.4	−3.6	−1.6	0.7	1.6	1.2
Austria	9.8	13.8	12.1	0.3	4.0	−5.0	3.8	5.2	−3.8	3.6	3.6	−2.1	−6.9	−0.9	2.0	4.5
Belgium	9.0	−2.0	2.9	7.0	7.4	−1.8	3.8	0.1	2.6	−2.6	4.6	−16.2	−1.9	−4.1	1.1	3.2
Denmark	2.4	1.7	8.6	4.3	−9.0	−12.2	17.4	−2.3	1.4	0.5	−12.6	−19.2	7.1	1.6	12.5	8.0
Finland	12.5	3.8	6.5	8.5	3.5	5.9	−8.8	−5.1	−7.2	3.1	9.9	3.2	3.5	4.7	−2.0	5.0
Ireland	0.2	8.6	5.2	18.1	−7.5	1.6	10.1	4.8	18.3	14.5	−3.7	5.3	−5.0	−9.1	−1.8	2.2
Netherlands	9.5	3.4	−2.8	4.5	−3.8	−4.9	−2.8	18.8	2.5	−1.7	−0.9	−10.4	−4.1	0.4	4.3	2.3
Norway	14.9	18.8	−4.1	13.6	5.1	11.9	10.1	3.6	−11.2	−5.0	−4.4	17.9	−11.0	1.4	11.1	−13.8
Sweden	10.2	−0.6	4.2	2.7	−3.0	3.1	1.9	−2.9	−6.8	4.5	3.5	−5.3	−1.1	1.6	3.9	6.3
Switzerland	8.9	9.9	5.0	2.9	−4.3	−13.6	−10.5	1.6	6.1	5.1	9.9	2.4	−2.7	4.3	4.0	4.7
Total 9 countries	9.2	5.0	3.5	5.1	−0.8	−2.8	1.0	3.3	−1.0	1.1	1.8	−4.5	−2.8	0.8	4.1	2.6
Total western Europe	6.7	4.4	3.2	4.2	−2.9	−4.3	2.5	1.3	1.8	4.0	2.2	−3.9	−1.9	0.7	2.2	1.6
Greece	−1.4	14.0	15.4	7.7	−25.6	0.2	6.8	7.8	6.0	8.8	−6.5	−7.5	−1.9	−1.4	−4.7	1.3
Portugal	11.5	9.8	13.5	9.5	−7.0	−11.3	0.8	12.0	7.1	−0.9	10.3	4.6	2.9	−7.5	−18.0	−5.0
Spain	3.0	−2.9	15.8	14.3	6.6	−3.9	−2.0	−0.2	−2.3	−4.5	1.3	1.2	−2.4	−1.5	−3.2	5.0
Turkey	13.5	−5.0	14.8	13.0	8.1	24.2	20.2	4.6	−10.0	−3.6	−10.0	1.7	3.5	3.0	3.1	1.1
Yugoslavia	22.6	4.6	1.8	4.2	9.1	9.7	8.1	9.5	10.5	6.4	−5.9	−9.8	−5.9	−9.7	−9.4	−10.0
Total southern Europe	7.8	1.1	12.8	11.2	2.2	2.1	4.6	4.1	0.2	−0.4	−2.3	−1.7	−1.6	−3.0	−4.8	0.4
Total Europe	6.8	4.1	4.2	5.0	−2.3	−3.5	2.7	1.7	1.6	3.4	1.7	−3.6	−1.9	0.2	1.4	1.4
United States	−3.1	7.1	11.0	8.4	−6.8	−11.6	8.9	14.1	9.8	3.7	−7.9	1.1	−9.6	7.9	17.6	7.5
Canada	0.3	10.0	5.6	11.1	5.4	3.8	4.0	−0.5	−0.1	6.8	3.4	6.4	−9.7	−5.7	0.7	6.5
North America	−2.7	7.4	10.4	8.7	−5.5	−9.7	8.2	12.1	8.6	4.0	−6.6	1.7	−9.6	6.1	15.7	7.4
Total above	2.8	5.4	6.7	6.5	−3.7	−6.1	5.0	6.0	4.7	3.7	−2.1	−1.3	−5.4	2.8	7.8	4.3

Sources: National statistics; and for southern Europe, OECD *National Accounts*, vol. II. Data are calculated at 1975 prices and exchange rates.

APPENDIX TABLE A.5

Volume of exports of goods and services

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	16.1	11.2	13.4	12.5	10.8	−1.5	10.7	8.5	6.1	7.3	2.4	5.4	−2.6	4.4	6.9	3.0
Germany, Federal Republic of	6.4	6.5	6.6	10.1	12.1	−6.7	9.9	3.3	4.1	4.5	5.3	8.2	3.2	−0.2	8.0	7.2
Italy	6.0	7.2	11.5	3.8	9.9	3.7	13.2	6.7	10.1	9.1	−4.3	5.2	0.4	3.3	7.0	6.0
United Kingdom	5.5	6.8	1.2	11.6	7.3	−2.7	9.0	6.5	1.9	3.4	–	−1.7	1.2	2.2	6.9	7.1
Total 4 countries	8.1	7.7	7.5	10.1	10.4	−3.2	10.3	5.7	5.0	5.7	1.9	5.0	0.9	1.9	7.4	5.9
Austria	16.4	5.9	9.2	2.2	10.7	−2.4	11.1	4.6	6.0	10.8	5.8	3.8	2.0	3.1	3.5	9.5
Belgium	10.8	6.3	10.0	14.4	6.8	−8.9	12.6	12.3	3.7	8.0	4.5	3.3	2.0	3.1	4.5	4.0
Denmark	5.2	5.1	5.7	7.7	4.4	−1.7	4.2	4.8	2.0	6.2	5.2	8.2	2.5	3.8	3.8	4.4
Finland	8.7	−1.3	14.5	6.6	−14.0	12.8	16.0	8.5	–	9.0	8.5	6.4	−1.5	3.7	6.1	4.0
Ireland	4.4	4.1	3.6	10.9	0.7	−0.9	8.1	14.0	12.3	6.5	6.4	2.0	5.5	10.5	16.9	6.5
Netherlands	12.3	11.0	10.8	12.4	2.5	−3.0	10.1	−7.6	3.3	7.4	1.5	1.5	–	3.6	7.0	4.0
Norway	0.1	1.1	14.1	8.3	0.7	3.1	11.3	3.6	8.4	2.6	11.7	1.4	−0.1	7.3	5.1	4.9
Sweden	1.0	4.8	5.9	13.7	5.3	−9.3	4.3	1.5	7.8	6.1	−0.5	1.1	4.4	10.7	6.5	2.0
Switzerland	6.8	3.9	6.4	7.9	1.0	−6.6	9.3	9.7	3.7	2.5	5.1	4.6	−3.0	1.0	6.1	8.3
Total 9 countries	8.1	6.0	9.2	10.6	3.2	−4.2	9.7	3.3	4.5	6.6	4.2	3.2	0.9	4.4	5.8	4.9
Total western Europe	8.1	7.0	8.1	10.3	7.6	−3.6	10.1	4.8	4.8	6.0	2.8	4.3	0.9	2.8	6.8	5.5
Greece	12.4	11.9	22.9	23.4	0.1	10.6	16.4	1.8	16.4	6.7	6.6	−4.1	−9.0	9.8	11.6	5.9
Portugal	−1.6	9.9	18.5	4.2	−15.7	−15.6	–	5.9	11.1	30.2	6.8	−2.0	6.5	17.7	14.7	8.5
Spain	17.5	13.0	12.2	9.0	0.8	−1.4	10.1	8.5	10.7	6.4	0.6	6.9	6.7	7.6	15.4	1.5
Turkey	14.3	15.5	14.6	26.2	−11.0	−1.1	37.5	−21.8	12.9	−12.3	7.4	62.2	36.1	8.4	30.7	20.0
Yugoslavia	3.3	3.7	17.6	6.8	1.0	−1.8	14.9	−5.4	−0.8	5.4	11.0	12.2	−7.0	2.3	11.1	7.8
Total southern Europe	10.7	10.7	15.1	10.5	−2.6	−2.0	13.2	1.3	9.3	6.8	4.3	9.8	5.8	8.1	16.5	6.6
Total Europe	8.3	7.3	8.6	10.3	6.9	−3.5	10.3	4.6	5.1	6.1	2.9	4.7	1.3	3.2	7.6	5.6
United States	8.1	0.5	8.9	24.1	11.1	−3.5	5.7	2.6	11.0	14.1	9.0	1.0	−7.8	−3.5	6.2	−2.9
Canada	9.1	4.5	6.6	10.6	−2.0	−6.4	9.6	7.3	10.5	3.0	1.8	3.1	−1.6	6.4	19.5	4.2
North America	8.3	1.4	8.4	21.0	8.3	−4.0	6.4	3.5	10.9	12.0	7.7	1.3	−6.8	−1.7	8.8	−1.3
Total above	8.3	5.6	8.5	13.2	7.3	−3.6	9.2	4.3	6.8	7.8	4.3	3.6	−1.2	1.8	7.9	3.7

Sources: National statistics; and for southern Europe, OECD *National Accounts*, Vol. II. Data are calculated at 1975 prices and exchange rates. National expenditure accounting basis is employed.

APPENDIX TABLE A.6

Volume of imports of goods and services

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	6.3	7.8	16.7	15.4	6.3	−7.5	20.7	2.2	6.2	11.4	7.2	1.4	6.8	−0.6	2.6	2.7
Germany, Federal Republic of	15.6	10.0	5.7	4.3	2.2	−0.6	10.5	3.6	5.5	10.5	3.7	−1.2	−0.1	0.8	5.5	4.6
Italy	15.9	2.4	11.4	10.5	2.2	−9.6	15.4	−0.2	8.1	13.8	8.3	−5.3	1.5	0.1	9.6	8.0
United Kingdom	5.3	5.2	10.0	11.9	1.2	−7.1	4.2	1.2	3.9	8.5	−2.0	−3.4	4.8	6.1	9.4	3.8
Total 4 countries	11.1	7.3	9.7	9.3	3.0	−5.0	12.2	2.2	5.7	10.8	4.1	−1.5	2.9	1.3	6.0	4.4
Austria	16.9	5.8	11.1	6.2	6.9	−4.6	17.4	8.0	−1.3	11.8	6.4	−1.5	−3.3	5.7	7.7	6.2
Belgium	12.1	5.3	8.4	19.4	7.5	−9.8	12.2	14.9	3.9	9.5	1.9	−1.5	−0.2	−0.1	4.6	3.0
Denmark	8.5	−0.5	0.9	15.1	−3.5	−4.3	17.0	0.2	0.6	13.4	−6.8	−1.7	3.8	0.3	6.2	6.4
Finland	20.3	−0.6	4.2	13.0	6.7	0.6	−2.0	−1.6	−3.9	18.5	8.3	−3.5	2.1	3.6	1.2	4.5
Ireland	2.4	4.7	5.1	19.0	−2.3	−11.3	14.7	13.3	15.7	13.9	−4.5	1.7	−3.1	4.7	9.5	2.2
Netherlands	14.5	6.1	5.2	10.9	−1.1	−4.1	10.3	0.3	6.3	6.0	−0.4	−5.9	1.1	3.3	5.9	4.0
Norway	13.6	6.4	−1.0	14.5	4.7	7.0	12.3	3.4	−13.5	−0.7	7.8	1.5	3.7	0.1	6.2	7.0
Sweden	21.9	−3.3	4.0	6.9	9.9	−3.5	9.0	−3.8	−5.5	11.6	0.4	−7.1	4.3	0.4	4.7	8.1
Switzerland	13.9	6.2	7.3	6.5	−1.0	−15.4	13.1	9.3	10.9	6.9	7.2	−1.3	−2.6	4.4	7.1	5.6
Total 9 countries	14.5	3.7	5.4	11.8	3.1	−5.7	11.3	4.6	2.0	8.8	2.0	−2.9	0.6	2.2	5.7	5.0
Total western Europe	12.5	5.9	8.0	10.3	3.0	−5.3	11.9	3.2	4.2	10.0	3.3	−2.1	2.0	1.6	5.9	4.6
Greece	6.2	7.6	15.4	32.2	−16.3	6.3	6.1	8.0	7.2	7.2	−6.6	3.4	5.1	2.6	−0.1	4.0
Portugal	0.9	14.5	12.0	12.7	4.8	−25.2	3.4	12.0	−0.2	11.5	11.7	5.5	5.0	−7.3	−3.2	1.5
Spain	7.0	0.6	24.7	16.4	7.7	−1.1	10.1	−4.7	−0.7	11.5	3.8	−3.5	4.8	−0.6	1.0	3.0
Turkey	22.0	9.7	19.0	10.5	1.7	11.8	21.6	−5.5	−31.2	−9.0	−2.8	11.1	7.7	12.5	23.0	13.8
Yugoslavia	27.8	9.2	−6.5	16.4	14.4	−2.8	−6.8	13.1	−1.0	20.0	−10.0	−2.3	−10.0	4.8	−1.9	−0.3
Total southern Europe	12.4	6.7	14.4	16.2	4.5	−1.6	8.5	0.7	−7.0	9.0	−0.2	0.7	2.7	1.8	3.8	4.7
Total Europe	12.5	5.9	8.1	10.8	3.2	−4.9	11.5	2.9	3.2	9.9	3.0	−1.8	2.1	1.6	5.7	4.6
United States	4.2	5.1	11.7	11.9	−2.0	−10.3	18.5	11.1	7.0	4.1	−6.0	3.4	−2.3	9.9	23.6	2.1
Canada	−0.7	6.9	11.2	13.6	9.8	−2.8	8.7	1.6	4.6	6.9	−2.5	4.5	−11.2	8.1	14.4	5.5
North America	3.2	5.4	11.6	12.3	0.3	−8.7	16.3	9.1	6.5	4.6	−5.3	3.7	−4.1	9.5	21.9	2.7
Total above	9.6	5.8	9.5	11.3	2.3	−6.0	12.9	4.8	4.2	8.2	0.5	−0.2	0.2	4.0	10.6	4.0

Sources: National statistics; and for southern Europe, OECD *National Accounts*, vol. II. Data are calculated at 1975 prices and exchange rates. National expenditure accounting basis is employed.

APPENDIX TABLE A.7

Current account balances

(*Million US dollars*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*[a]
France	55	568	262	1 427	– 3 857	2 743	– 3 373	– 408	7 065	5 142	– 4 208	– 4 811	– 12 082	– 5 166	– 907	1 000
Germany, Federal Republic of	850	770	820	4 690	10 340	4 090	3 950	4 140	9 230	– 6 180	– 16 000	– 5 420	3 220	4 170	6 070	17 500
Italy	902	2 040	1 993	– 2 538	– 8 063	– 580	– 2 901	2 440	6 237	5 414	– 9 801	– 8 604	– 5 684	597	– 2 871	– 7 500
United Kingdom	1 910	2 654	501	– 2 464	– 7 755	– 3 608	– 1 937	170	1 180	– 1 408	7 463	13 063	6 874	4 676	1 378	4 000
Total 4 countries	3 717	6 032	3 576	1 115	– 9 335	2 645	– 4 261	6 002	24 411	2 868	– 22 546	– 5 772	– 7 672	4 232	3 670	15 000
Austria	– 75	– 91	– 157	– 254	– 203	– 231	– 1 119	– 2 200	– 706	– 1 141	– 1 725	– 1 464	648	117	626	–
Belgium	717	643	1 296	1 337	774	181	435	– 554	– 817	– 3 077	– 4 945	– 4 174	– 2 616	– 431	193	250
Denmark	– 544	– 425	– 63	– 476	– 980	– 490	– 1 914	– 1 722	– 1 502	– 2 965	– 2 466	– 1 875	– 2 259	– 1 176	– 1 637	– 2 000
Finland	– 240	– 339	– 117	– 389	– 1 210	– 2 143	– 1 118	– 106	671	– 169	– 1 409	– 373	– 753	– 936	5	–
Ireland	– 198	– 200	– 150	– 254	– 688	– 124	– 428	– 522	– 852	– 2 100	– 2 133	– 2 567	– 1 867	– 1 150	– 907	– 500
Netherlands	– 483	– 107	1 352	2 419	2 219	1 990	2 730	1 123	– 1 690	– 2 070	– 2 974	2 906	3 700	3 877	4 957	6 250
Norway	– 242	– 526	– 59	– 365	– 1 118	– 2 478	– 3 746	– 5 034	– 2 103	– 1 044	1 098	2 177	662	2 036	3 228	2 500
Sweden	– 265	352	567	1 429	– 552	– 342	– 1 648	– 2 181	– 251	– 2 414	– 4 404	– 2 847	– 3 314	– 945	424	– 1 500
Switzerland	72	82	220	280	173	2 288	3 133	3 395	3 756	1 268	– 1 555	1 498	3 934	1 197	4 019	3 500
Total 9 countries	– 1 258	– 611	2 889	3 727	– 1 585	– 1 349	– 3 675	– 7 801	– 3 494	– 13 712	– 20 513	– 6 719	– 1 872	2 649	9 656	8 500
Total western Europe	2 459	5 421	6 465	4 842	– 10 920	1 296	– 7 936	– 1 799	20 917	– 10 844	– 43 059	– 12 491	– 9 544	6 884	13 326	23 500
Greece	– 422	– 344	– 400	1 189	– 1 143	– 877	– 929	– 1 075	– 955	– 1 886	– 2 209	– 2 408	– 1 892	– 1 878	2 132	– 3 000
Portugal	. .	. .	354	341	– 830	– 755	– 1 282	– 957	– 463	– 54	– 1 064	– 2 605	– 3 250	– 1 004	– 514	– 100
Spain	79	856	581	585	– 3 233	– 3 514	– 4 292	– 2 133	1 634	1 128	– 5 173	– 4 989	– 4 240	– 2 480	2 059	2 600
Turkey	– 44	43	212	660	– 561	– 1 648	– 2 029	– 3 138	– 1 266	– 1 413	– 3 409	– 1 916	– 935	– 1 898	– 1 407	– 800
Yugoslavia	– 372	– 395	431	502	– 951	– 625	180	– 1 346	– 1 284	– 3 665	– 2 316	– 961	– 475	275	504	800
Total southern Europe	. .	. .	1 178	899	– 6 718	– 7 419	– 8 352	– 8 649	– 2 334	– 5 890	– 14 171	– 12 879	– 10 797	– 6 985	– 1 490	– 500
Total Europe	. .	. .	7 643	5 741	– 17 638	– 6 123	– 16 288	– 10 448	18 583	– 16 734	– 57 230	– 25 370	– 20 341	– 101	11 836	23 000
United States	2 320	– 1 450	– 5 780	7 070	1 920	18 130	4 170	– 14 490	– 15 450	– 970	1 840	6 370	– 8 030	– 46 080	– 107 440	– 110 000
Canada	1 078	424	– 385	107	– 1 487	– 4 696	– 4 152	– 4 112	– 4 298	– 4 120	– 953	– 5 055	2 110	1 365	1 893	1 000
North America	3 398	– 1 026	– 6 165	7 177	433	13 434	18	– 18 602	– 19 748	– 5 090	887	1 315	– 5 920	– 44 715	– 105 547	– 109 000
Total above	. .	. .	1 478	12 918	– 17 205	7 311	– 16 270	– 29 050	– 1 165	– 21 824	– 56 343	– 24 055	– 26 261	– 44 816	– 93 711	85 500

Source: International Monetary Fund, *International Financial Statistics*.

[a] 1985 provisional data from OECD, *Economic Outlook*, No. 38, December 1985; EFTA secretariat forecast, based on national sources.

Appendix table A.8

Industrial production

(Indexes, 1980 = 100)

	1970	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	74.0	84.0	89.0	91.0	85.0	92.0	93.0	96.0	100.0	100.0	99.0	97.0	98.0	100.0	100.0
Germany, Federal Republic of	83.2	86.9	92.3	90.8	85.2	91.1	93.4	95.1	100.0	100.0	98.5	95.6	96.3	99.6	105.3
Italy	72.2	75.3	82.6	85.9	78.3	87.4	87.4	89.1	95.1	100.0	98.4	95.4	92.3	95.4	97.5
United Kingdom	90.1	91.2	99.4	97.5	92.2	95.2	100.1	103.1	107.1	100.0	96.6	98.4	101.9	103.2	108.5
Total 4 countries	80.4	85.0	91.2	91.3	85.3	91.5	93.6	95.9	100.6	100.0	98.2	96.5	97.1	99.7	103.3
Austria	68.2	78.1	81.0	85.4	80.0	85.3	88.6	90.4	97.4	100.0	98.4	97.6	98.5	103.8	108.4
Belgium	80.3	87.9	93.2	97.0	87.5	94.3	94.7	97.0	101.4	100.0	97.4	97.4	99.3	102.2	105.3
Denmark	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Finland	4.0	73.0	78.0	82.0	79.0	80.0	80.0	84.0	93.0	100.0	102.9	103.8	107.1	112.7	117.0
Ireland	63.7	69.2	76.5	77.7	74.6	81.3	87.8	94.6	101.9	100.0	102.3	102.6	109.2	123.2	130.6
Netherlands	75.0	83.0	89.0	94.0	89.0	96.0	96.0	97.0	101.0	100.0	98.0	94.0	96.0	101.0	104.0
Norway	59.0	65.0	69.0	72.0	76.0	80.0	80.0	88.0	94.0	100.0	99.0	99.0	107.0	113.0	117.0
Sweden [a]	91.0	94.0	100.0	105.0	102.0	102.0	96.0	94.0	100.0	100.0	98.0	97.0	101.0	109.0	113.0
Switzerland	90.0	94.0	99.0	100.0	87.0	88.0	93.0	93.0	95.0	100.0	99.0	96.0	95.0	97.0	101.0
Total 8 countries	77.6	84.1	89.2	92.8	86.9	90.9	91.6	93.3	98.2	100.0	98.6	97.1	99.4	104.3	108.2
Total western Europe [b]	79.8	84.8	90.8	91.6	85.7	91.4	93.2	95.3	100.1	100.0	98.3	96.6	97.6	100.7	105.2
Greece	51.1	64.9	74.9	73.7	77.0	85.1	86.8	93.4	99.0	100.0	99.3	94.9	94.3	97.3	..
Portugal	53.2	64.8	72.5	74.5	70.8	73.2	82.8	88.5	94.9	100.0	100.5	105.1	106.8	106.7	..
Spain	63.2	75.5	86.8	94.9	86.6	91.0	95.8	98.0	98.8	100.0	99.0	97.8	100.5	101.4	..
Turkey	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yugoslavia	49.0	59.0	62.0	69.0	72.0	75.0	82.0	89.0	97.0	100.0	104.0	104.0	105.0	111.0	..
Total southern Europe [c]	58.0	69.8	78.8	85.2	81.0	85.2	90.7	94.7	98.1	100.0	100.3	99.6	101.5	103.8	..
Total Europe [d]	77.8	83.4	89.7	91.0	85.2	90.8	92.9	95.3	99.9	100.0	98.5	96.9	98.0	101.0	..
United States	71.8	79.8	86.5	86.1	78.5	86.9	92.1	98.1	101.9	100.0	102.2	94.3	100.6	112.1	114.5
Canada	69.6	79.2	87.6	90.4	85.0	90.2	92.5	95.6	101.5	100.0	100.9	90.1	95.5	103.6	107.2
North America	71.6	79.7	86.6	86.5	79.1	87.2	92.1	97.9	101.9	100.0	102.1	94.5	100.1	111.3	113.9
Total above [d]	75.1	81.9	88.4	89.1	82.6	89.2	92.6	96.4	100.7	100.0	100.0	95.8	98.9	105.4	..

Source: OECD, *Main Economic Indicators*, Paris (monthly), and national statistics.

[a] Sweden refers to mining and manufacturing only.

[b] Excluding Denmark

[c] Excluding Turkey.

[d] Excluding Denmark and Turkey.

APPENDIX TABLE A.9

Consumer prices

(Annual percentage change)

	1970	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	5.2	6.2	7.3	13.7	11.8	9.6	9.4	9.1	10.8	13.6	13.4	11.8	9.6	7.4	5.8
Germany, Federal Republic of	3.6	5.6	6.9	6.9	5.9	4.4	3.6	2.7	4.2	5.4	6.3	5.3	3.3	2.4	2.2
Italy	4.9	5.7	10.8	19.1	17.0	16.7	17.0	12.1	14.8	21.2	17.8	16.5	14.7	10.8	9.2
United Kingdom	6.4	7.1	9.1	16.0	24.2	16.5	15.8	8.3	13.4	18.0	11.9	8.6	4.6	5.0	6.1
Total 4 countries	4.8	6.1	8.2	12.9	13.2	10.5	10.1	7.3	9.8	13.0	11.5	9.8	7.4	5.8	5.3
Austria	4.4	6.3	7.6	9.5	8.4	7.3	5.5	3.6	3.7	6.4	6.8	5.4	3.3	5.6	3.2
Belgium	3.9	5.4	7.0	12.7	12.8	9.2	7.1	4.5	4.5	6.6	7.6	8.7	7.7	6.3	4.9
Denmark	6.5	6.6	9.3	15.2	9.6	9.0	11.1	10.1	9.6	12.3	11.7	10.1	6.9	6.3	4.7
Finland	2.7	7.4	10.7	16.9	17.9	14.4	12.6	7.8	7.5	11.6	12.0	9.6	8.3	7.1	5.9
Ireland	8.2	8.7	11.4	17.0	20.9	18.0	13.6	7.6	13.2	18.2	20.4	17.1	10.4	8.6	5.4
Netherlands	3.6	7.8	8.0	9.6	10.2	8.8	6.4	4.1	4.2	6.5	6.7	5.9	2.8	3.3	2.2
Norway	10.7	7.2	7.6	9.4	11.6	9.2	9.0	8.2	4.8	10.9	13.6	11.3	8.4	6.2	5.7
Sweden	7.0	6.0	6.8	9.9	9.8	10.3	11.4	10.0	7.2	13.7	12.1	8.6	9.0	8.0	7.4
Switzerland	3.6	6.7	8.7	9.8	6.7	1.8	1.2	1.1	3.6	4.0	6.5	5.6	3.0	3.0	3.4
Total 9 countries	5.0	6.7	8.0	11.3	10.7	8.6	7.7	5.7	5.5	8.7	9.2	7.9	5.9	5.5	4.5
Total western Europe	4.9	6.2	8.1	12.5	12.6	10.0	9.5	6.9	8.7	12.0	10.9	9.3	7.0	5.8	5.1
Greece	2.9	4.3	15.5	26.9	13.4	13.3	12.1	12.6	19.0	24.9	24.5	21.0	20.2	18.5	19.3
Portugal[a]	6.4	10.7	12.9	25.1	15.3	21.0[b]	27.4	22.0	24.2	16.6	20.0	22.4	25.5	29.5	19.9
Spain	5.6	8.3	11.4	15.7	16.9	14.9	24.5	19.8	15.7	15.5	14.6	14.4	12.2	11.3	8.8
Turkey[c]	8.1	12.9	16.6	18.7	20.1	15.3	28.4	49.5	56.5	116.6	35.9	27.1	31.4[b]	48.4	45.0
Yugoslavia	10.4	16.3	19.9	21.0	24.2	12.0	15.1	14.1	20.3	31.0	42.1	31.5	40.8	53.4	70.9
Total southern Europe	6.4	9.9	14.0	18.8	17.9	15.0	23.1	24.1	24.9	37.3	23.4	20.2	21.1	25.5	25.1
Total Europe	5.1	6.7	8.9	13.3	13.3	10.7	11.2	9.1	10.8	15.2	12.5	10.7	8.8	8.3	7.7
United States[d]	5.9	3.3	6.2	11.0	9.1	5.8	6.5	7.6[b]	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Canada	3.3	4.7	7.7	10.9	10.8	7.5	7.9	8.8	9.2	10.2	12.5	10.8	5.8	4.4	4.0
North America	5.7	3.4	6.4	11.0	9.3	5.9	6.6	7.7	11.1	13.2	10.6	6.5	3.4	4.3	3.6
Total above	5.4	5.1	7.6	12.1	11.3	8.3	8.9	8.4	10.9	14.2	11.5	8.6	6.1	6.3	5.7

Source: National statistics with weights taken from OECD *National Accounts.*

[a] 1970-1976, Lisbon

[b] Major change in coverage takes place in year noted.

[c] 1970-1982, Ankara; 1983 and thereafter, total urban areas

[d] 1970-1978, urban wage earners and clerical workers; 1979 and thereafter, all urban consumers.

APPENDIX TABLE A.10

Average hourly earnings in manufacturing
(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*
France[a]	10.5	11.2	11.3	14.6	19.3	17.3	14.1	12.7	12.9	13.0	13.1	12.3	15.8	11.5	8.1
Germany, Federal Republic of	14.0	10.8	8.9	10.7	10.5	8.2	6.5	7.3	5.2	5.5	6.3	5.3	4.8	3.4	2.3
Italy[a]	21.7	13.5	10.4	24.2	22.4	26.7	20.9	27.9	16.2	19.0	18.5	23.1	17.0	15.3	11.4
United Kingdom[b]	12.8	11.3	12.8	12.7	17.2	26.1	16.9	10.3	14.3	15.7	17.8	13.3	11.2	9.0	8.7
Total 4 countries	14.5	11.6	10.7	14.8	16.5	18.5	13.7	13.4	11.4	12.5	13.2	12.5	11.2	8.9	7.0
Austria[c]	9.4	13.7	11.6	12.7	15.9	13.3	9.1	8.5	5.7	5.8	7.9	6.2	6.1	4.5	5.0
Belgium	10.5	13.6	14.9	16.2	20.7	18.6	11.7	9.8	7.4	7.7	9.3	9.8	6.5	3.9	4.8
Denmark[d]	12.0	14.5	12.6	18.8	21.5	19.1	12.7	10.3	10.4	11.3	11.2	9.5	10.0	6.6	4.8
Finland[e]	11.0	14.5	14.7	16.8	22.3	21.1	14.8	8.9	7.4	11.6	12.8	12.7	10.5	9.8	9.2
Ireland[e]	16.1	16.1	14.9	19.0	20.3	28.7	17.0	18.6	14.5	15.4	21.1	16.4	14.4	11.6	10.6
Netherlands[a]	10.8	12.0	13.3	13.0	17.7	13.5	8.6	7.3	5.7	4.3	4.6	3.0	7.2	2.6	1.1
Norway[f]	12.0	12.5	9.1	10.6	17.3	19.8	16.4	10.9	7.9	2.8	9.3	10.2	10.2	8.4	8.6
Sweden[d]	13.3	7.4	15.0	8.4	11.0	14.7	17.9	6.7	8.7	7.7	8.8	10.5	7.9	7.9	9.6
Switzerland[c]	6.2	9.7	8.8	9.2	13.9	7.4	1.6	1.7	3.4	2.1	5.2	5.1	5.9	3.7	1.8
Total 9 countries	10.7	12.0	12.8	13.0	17.1	15.5	11.1	7.9	7.0	6.7	8.6	8.1	7.8	5.6	5.4
Total western Europe	13.8	11.7	11.1	14.4	16.6	17.9	13.2	12.3	10.5	11.3	12.3	11.6	10.5	8.3	6.7
Greece	6.0	8.7	9.2	15.8	26.8	24.4	28.8	20.8	23.7	20.5	27.2	27.2	33.9	19.4	26.1
Portugal[g]	26.9	15.6	15.9	17.9	34.8	33.1	18.7	16.3	16.7	15.9	23.5	21.7	17.9	17.8	18.1
Spain[h]	14.4	14.0	15.4	19.7	25.6	28.6	30.0	30.3	26.6	23.7	18.4	22.6	15.8	15.1	11.7
Turkey	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yugoslavia	16.3	22.3	16.1	19.3	27.8	22.4	14.2	17.9	19.1	20.7	24.2	37.0	27.7	27.4	45.3
Total southern Europe[i]	16.0	16.2	15.1	18.9	27.8	27.0	23.4	23.5	22.6	21.3	21.8	27.3	21.5	19.7	24.3
Total Europe[i]	14.1	12.4	11.8	15.2	18.5	19.4	14.9	14.2	12.5	13.0	13.9	14.2	12.4	10.2	9.6
United States	5.2	6.2	7.2	7.0	8.3	9.0	8.1	8.8	8.7	8.5	8.7	9.8	6.3	4.0	4.0
Canada	8.0	8.9	7.8	8.9	13.5	15.7	13.7	10.9	7.2	8.8	10.1	11.8	11.8	3.5	5.8
North America	5.4	6.4	7.3	7.2	8.8	9.6	8.6	9.0	8.6	8.5	8.8	10.0	6.8	4.0	4.2
Total above[i]	10.9	10.2	10.1	12.2	14.8	15.8	12.5	12.2	11.1	11.3	12.0	12.6	10.3	7.9	7.6

Source: National statistics, and OECD, *Economic Outlook - Historical Statistics, 1960-1983*, Paris.

[a] Wage rates.

[b] Weekly earnings of all employees—Great Britain.

[c] Monthly earnings in mining and manufacturing.

[d] Includes mining

[e] Industry

[f] Males only

[g] Daily earnings; for 1970-1974, wage bill for all activities.

[h] Refers to all activities

[i] Excluding Turkey.

APPENDIX TABLE A.11

Total employment

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*
France	1.4	0.5	0.6	1.4	0.9	−0.8	0.7	0.8	0.4	—	0.1	−0.6	0.1	−0.5	−1.0
Germany, Federal Republic of	1.3	0.6	−0.2	0.7	−1.3	−2.8	−0.8	−0.2	0.6	1.4	1.1	−0.7	−1.7	−1.5	0.1
Italy	0.2	−0.2	−1.0	0.8	1.6	0.2	0.7	0.5	0.7	1.0	0.8	0.5	−0.2	0.2	0.3
United Kingdom [a]	−0.4	−1.0	−0.1	2.4	0.4	−0.3	−0.9	0.1	0.6	1.5	−0.3	−4.0	−1.7	−1.3	1.7
Total 4 countries	0.6	—	−0.2	1.3	0.3	−1.0	−0.1	0.3	0.6	1.0	0.4	−1.3	−0.9	−0.8	0.3
Austria	0.2	1.1	0.7	1.4	1.3	−0.8	0.3	1.0	0.3	0.4	1.0	−0.3	−1.4	−0.9	—
Belgium	1.8	1.0	−0.1	1.3	1.4	−1.4	−0.6	−0.2	0.1	1.2	−0.1	−2.1	−1.3	−1.0	0.3
Denmark	0.7	0.6	2.1	1.2	−0.3	−1.3	1.8	0.8	1.0	1.2	−0.4	−1.3	0.5	0.1	2.4
Finland	2.1	−0.6	1.0	2.0	0.4	−0.4	−1.3	−1.9	−1.1	2.1	2.8	0.8	0.7	0.2	0.2
Ireland	−1.2	0.2	−0.6	0.6	0.9	0.5	−1.1	1.8	2.5	3.1	1.1	−0.9	0.2	−1.9	−1.4
Netherlands [b]	1.1	0.5	−0.9	0.1	0.2	−0.7	—	0.2	0.7	1.3	0.7	−1.5	−2.5	−2.0	−0.5
Norway [b]	1.2	0.7	0.4	0.4	1.4	0.2	1.8	2.0	1.1	0.7	1.7	0.5	−0.2	−0.4	1.0
Sweden	2.0	−0.2	0.3	0.4	2.0	2.0	0.4	0.2	0.4	1.5	1.1	0.2	−0.2	0.2	0.8
Switzerland	1.4	1.4	0.7	0.4	−0.5	−5.3	−3.3	0.2	0.6	0.7	1.8	1.3	−0.7	−1.3	−0.2
Total 9 countries	1.2	0.6	0.3	0.8	0.8	−0.9	−0.3	0.3	0.5	1.2	1.0	−0.5	−0.8	−0.8	0.3
Total western Europe	0.7	0.1	−0.1	1.2	0.4	−1.0	−0.2	0.3	0.6	1.1	0.5	−1.1	−0.9	−0.8	0.3
Greece	−0.1	0.3	0.5	1.0	0.1	0.1	1.2	0.8	0.4	1.1	1.4	5.2	−1.1	0.5	−0.2
Portugal	0.6	−0.3	−0.6	−0.8	14.6	−0.9	1.5	−0.1	−0.3	2.2	1.8	1.1	−0.3	−1.7	−1.8
Spain	1.0	0.6	0.3	2.5	0.5	−1.8	−1.1	−0.8	−2.7	−2.1	−4.9	−2.7	−0.6	−0.8	−3.9
Turkey	−0.3	2.1	2.3	1.7	1.6	1.7	2.3	1.9	1.0	0.1	−0.1	0.9	0.9	0.7	1.3
Yugoslavia [c]	3.9	4.8	4.3	2.4	5.0	5.5	3.6	4.5	4.5	4.3	3.2	2.9	2.3	2.0	2.1
Total southern Europe	0.7	1.4	1.4	1.7	2.6	0.6	1.2	1.0	0.1	0.2	−0.8	0.5	0.4	0.2	−0.5
Total Europe	0.7	0.4	0.3	1.3	0.9	−0.6	0.2	0.5	0.5	0.9	0.2	−0.7	−0.6	−0.6	0.1
United States [d]	−0.8	−0.4	2.4	4.0	1.5	−2.5	2.7	3.4	5.0	3.4	0.7	0.5	−1.8	0.7	4.1
Canada	1.1	2.3	3.0	5.0	4.2	1.7	2.1	1.8	3.5	4.1	3.0	2.8	−3.3	0.8	2.5
North America	0.6	−0.2	2.5	4.1	1.8	−2.1	2.7	3.3	4.8	3.5	0.9	0.9	−1.9	0.7	4.0
Total above	0.2	0.2	1.1	2.4	1.2	−1.2	1.1	1.5	2.1	1.9	0.5	−0.1	−1.1	—	1.6

Sources: National statistics; OECD, *Labour Force Statistics*, Paris, various issues; ECE secretariat estimates.

[a] June of each year.

[b] Man-years.

[c] Socialized sector.

[d] Full-time equivalent

Appendix table A.12

Unemployment rates

(Per cent of total labour force)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
France	2.4	2.6	2.7	2.6	2.8	4.1	4.4	4.9	5.4	5.9	6.3	7.3	8.1	8.3	9.7	10.1
Germany, Federal Republic of	0.6	0.7	0.9	1.0	2.1	4.0	4.0	3.9	3.7	3.3	3.3	4.6	6.7	8.2	8.2	8.2
Italy	5.3	5.3	6.3	6.2	5.3	5.8	6.6	7.0	7.1	7.5	7.5	8.3	8.9	9.8	10.2	11.0
United Kingdom	2.2	2.8	3.1	2.2	2.1	3.2	4.8	5.2	5.1	4.6	5.6	9.0	10.4	11.2	11.2	11.6
Total 4 countries	2.5	2.7	3.1	2.9	3.0	4.2	4.9	5.2	5.2	5.2	5.6	7.3	8.5	9.4	9.8	10.2
Austria	1.8	1.6	1.5	1.3	1.3	1.7	1.7	1.5	1.8	1.7	1.6	2.1	3.2	3.8	3.9	4.2
Belgium	1.9	1.8	2.3	2.3	2.4	4.3	5.8	6.6	7.1	7.3	7.8	10.0	11.6	12.9	13.1	13.1
Denmark	0.7	1.1	0.9	0.9	3.5	4.9	4.8	5.8	6.3	5.7	6.6	8.7	9.3	10.1	9.7	8.5
Finland	2.0	2.4	2.7	2.4	1.9	2.6	3.9	5.9	7.3	6.0	4.7	5.2	5.9	6.1	6.2	6.3
Ireland	5.8	5.8	6.3	5.9	5.7	7.4	8.3	8.9	8.4	7.1	7.3	9.9	11.4	14.1	15.5	16.8
Netherlands	1.1	1.5	2.5	2.6	3.2	4.5	4.8	4.6	4.6	4.6	5.9	8.5	11.4	13.7	13.7	13.4
Norway	1.6	1.5	1.7	1.5	1.5	2.3	1.8	1.5	1.8	1.9	1.7	2.0	2.6	3.3	3.0	2.5
Sweden	1.5	2.5	2.7	2.5	2.0	1.6	1.6	1.8	2.2	2.1	2.0	2.5	3.2	3.4	3.1	2.8
Switzerland	–	–	–	–	–	0.3	0.7	0.4	0.3	0.3	0.2	0.2	0.4	0.9	1.1	1.0
Total 9 countries	1.5	1.8	2.1	2.0	2.2	3.1	3.5	3.9	4.2	4.0	4.2	5.5	6.8	7.8	8.0	7.8
Total western Europe	2.3	2.5	2.9	2.7	2.8	4.0	4.6	4.9	5.0	4.9	5.3	6.9	8.1	9.0	9.4	9.7
Greece	4.2	3.1	2.1	2.0	2.1	2.3	1.9	1.7	1.8	1.9	2.8	4.1	5.3	7.2	8.0	..
Portugal	2.5	2.5	2.5	2.5	2.1	5.5	6.3	7.4	8.0	8.1	7.9	8.2	9.4	10.4	10.8	..
Spain	2.4	3.1	3.1	2.5	2.6	3.7	4.7	5.2	6.9	8.5	11.2	14.0	15.9	17.4	20.1	..
Turkey	11.9	11.9	11.6	12.1	12.8	12.9	13.6	11.9	12.3	13.6	15.0	16.3	18.6	19.2	21.0	..
Yugoslavia	7.7	6.7	7.0	8.1	9.0	10.2	11.4	11.9	12.0	11.9	11.0	12.0	12.4	12.8	13.2	..
Total southern Europe	7.0	7.0	6.8	7.1	7.5	8.4	9.2	8.9	9.6	10.5	11.6	13.2	14.9	15.8	17.4	..
Total Europe	3.6	3.7	4.0	3.9	4.1	5.2	5.8	6.0	6.3	6.5	7.0	8.6	10.0	10.9	11.6	..
United States	4.8	5.8	5.4	4.8	5.5	8.3	7.5	6.9	5.9	5.7	7.0	7.5	9.5	9.4	7.4	7.0
Canada	5.6	6.1	6.1	5.5	5.3	6.9	7.1	8.0	8.3	7.4	7.4	7.5	10.9	11.8	11.2	10.5
North America	4.8	5.8	5.5	4.8	5.5	8.1	7.5	7.0	6.2	5.9	7.0	7.5	9.6	9.7	7.8	7.4
Total above	4.1	4.6	4.6	4.3	4.6	6.4	6.5	6.4	6.2	6.2	7.0	8.1	9.8	10.4	10.0	..

Source: National statistics; OECD, *Labour Force Statistics*, various issues, Paris; ECE secretariat estimates.

Appendix B. Eastern Europe and the Soviet Union

APPENDIX TABLE B.1

Net material product
(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	7.1	6.9	7.7	8.1	7.6	8.8	6.5	6.3	5.6	6.6	5.7	5.0	4.2	3.0	4.6	1.8
Czechoslovakia	5.7	5.5	5.7	5.2	5.9	6.2	4.2	4.2	4.1	3.1	2.9	−0.1	0.2	2.3	3.5	3.1
German Democratic Republic	5.6	4.4	5.7	5.6	6.5	4.9	3.5	5.1	3.7	4.0	4.4	4.8	2.6	4.4	5.5	4.8
Hungary	4.9	5.9	6.2	7.0	5.9	6.1	3.0	7.1	4.0	1.2	−0.9	2.5	2.6	0.3	2.5	−1
Poland	5.2	8.1	10.6	10.8	10.5	9.0	6.9	5.0	3.0	−2.3	−6.0	−12.0	−5.5	6.0	5.6	3
Romania	6.8	13.5	10.0	10.7	12.4	9.8	11.3	8.7	7.4	6.2	2.9	2.2	2.7	3.7	7.7	5.9
Eastern Europe	5.7	7.3	8.1	8.3	8.6	7.6	6.1	5.7	4.3	2.0	0.1	−1.9	0.1	3.9	5.3	3.5
Soviet Union	9.0	5.6	3.9	8.9	5.4	4.5	5.9	4.5	5.1	2.2	3.9	3.3	3.9	4.2	3.2	3.5
Eastern Europe and the Soviet Union	8.0	6.1	5.1	8.7	6.5	5.4	5.9	4.9	4.9	2.1	2.7	1.7	2.8	4.1	3.8	3.5

Sources: National statistics and ECE secretariat estimates

APPENDIX TABLE B.2

Net material product used for domestic consumption and accumulation

(Annual percentage change)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Total	3.8	1.6	9.8	9.0	11.8	11.1	0.3	5.2	0.2	3.5	5.1	7.7	1.9	1.2	5.2	2*
Consumption	5.6	7.4	6.3	6.6	7.1	7.7	6.0	4.0	3.6	3.0	3.6	5.3	3.7	2.9	4.9	3*
Accumulation	−0.6	−11.5	21.0	16.0	24.2	18.7	−11.5	8.9	−9.3	5.0	9.5	14.8	−3.3	−3.6	6.2	−1*
Czechoslovakia																
Total	5.0	4.9	5.7	7.3	8.1	4.5	3.2	1.6	2.7	1.1	2.7	−3.4	−1.6	0.6	1.2	3*
Consumption	1.9	6.6	5.2	5.8	6.2	3.0	3.4	3.7	3.8	0.9	1.0	2.6	−1.1	2.8	2.7	2.8*
Accumulation	16.7	−0.6	7.7	12.2	14.3	9.2	2.7	−4.5	−0.5	1.8	8.2	−21.7	−3.6	−8.0	−5.8	4*
German Democratic Republic																
Total	7.5	3.1	5.3	6.7	6.0	2.9	5.9	4.8	1.1	1.5	5.0	1.1	−3.3	0.5	2.5	4.5*
Consumption	4.5	4.9	6.2	5.6	6.3	4.0	4.9	4.7	3.2	3.4	3.0	2.5	1.2	0.6	4.3	4-5*
Accumulation	17.4	−2.1	2.5	10.3	5.3	−0.8	9.5	5.2	−5.6	−5.0	12.3	−3.7	−19.4	–	−5.8	4-5*
Hungary																
Total	11.8	11.3	−3.7	2.0	12.7	6.4	1.3	6.0	9.2	−5.8	−1.7	0.7	−1.1	−2.8	−0.6	−0.3
Consumption	8.4	5.4	3.1	3.7	6.9	4.7	2.2	5.0	4.3	3.3	0.2	3.0	1.4	0.6	0.9	1*
Accumulation	23.6	30.4	−21.4	−3.8	34.2	11.5	−1.4	9.4	24.0	−28.9	−8.7	−8.6	−12.4	−20.4	−11.3	−1*
Poland																
Total	5.0	9.8	12.5	14.3	12.0	9.5	6.5	2.2	0.5	−3.7	−6.0	−10.5	−10.5	5.4	5.0	3.5
Consumption	4.1	7.7	9.1	8.1	7.4	11.1	8.8	6.8	1.7	3.1	2.1	−4.6	−11.5	5.8	4.4	2.5
Accumulation	7.4	15.2	20.9	27.8	20.5	7.0	2.4	−6.5	−2.0	−19.2	−29.6	−27.6	−6.6	4.9	7.3	6.5*
Romania																
Total	..	..	..	..	..	..	12.3	6.8	9.7	5.5	0.8	−6.5	−1.5	2.2	2.8	2.0
Consumption	..	..	..	..	..	..	8.8	7.8	9.4	6.3	3.4	3.0	−1.3	0.7	5.9	..
Accumulation	..	..	..	..	..	..	18.9	5.1	10.1	3.9	−3.7	−24.7	−2.0	6.0	−4.7*	..
Eastern Europe	a	a	a	a	a	a										
Total	6.3	6.6	7.2	9.3	9.9	6.7	5.9	3.9	3.2	−0.2	−0.3	−4.1	−4.1	2.0	2.9	2.5
Consumption	4.3	6.5	6.7	6.5	6.7	6.8	6.4	5.7	3.9	3.3	2.2	0.5	−3.4	2.5	..	..
Accumulation	14.0	6.7	5.8	15.0	17.1	7.1	5.8	0.9	2.8	−7.8	−4.6	−16.0	−8.4	−2.4	..	..
Soviet Union																
Total	11.2	5.9	3.5	7.7	4.1	4.2	5.3	3.5	4.5	2.0	3.9	3.2	3.5	3.5	2.6	3.1
Consumption	7.5	5.8	5.8	5.2	4.8	5.5	4.3	4.0	4.6	4.5	6.0	4.0	1.2	3.2	3.9	3.2*
Accumulation	21.3	3.4	−2.1	14.4	0.5	−1.5	6.6	3.3	5.2	−2.9	−0.6	0.9	11.0	5.0	-1.6	2.4*
Eastern Europe and the Soviet Union	a	a	a	a	a	a										
Total	9.9	5.5	4.6	8.2	5.8	5.0	5.3	3.6	4.1	1.3	2.5	0.8	1.2	3.2	2.6	2.9
Consumption	6.6	6.0	6.1	5.5	5.3	5.9	5.0	4.5	4.4	4.1	4.7	2.8	−0.3	2.8	..	..
Accumulation	19.6	4.2	−0.3	14.6	4.6	0.9	6.3	2.5	4.4	−4.5	−1.9	−4.4	5.7	3.9	..	..

Sources: National statistics and ECE secretariat estimates

[a] Excluding Romania

APPENDIX TABLE B.3

Wages

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Average nominal wages	..	2.4	3.1	6.1	2.2	2.1	2.1	2.0	4.0	5.1	16.9	5.2	2.5	1.9	4.2	3.4*
Real wages	6.1	1.8	3.2	5.5	1.6	2.6	0.9	0.3	0.4	1.5	−0.2	4.7	2.2	−0.2	3.2	..
Czechoslovakia																
Average nominal wages	..	1.8	4.1	3.3	3.3	3.2	2.8	3.2	3.0	2.5	2.2	1.5	2.3	1.9	1.7	1.9
Real wages	1.3	4.1	4.5	3.2	2.8	2.7	1.8	1.9	1.4	−0.6	−1.0	0.6	−2.3	0.6	0.8	–
German Democratic Republic																
Average nominal wages	4.6	4.0	4.0	1.8	3.7	3.4	3.5	2.9	3.2	3.0	1.5	2.4	1.9	1.3	2.0	..
Real wages [a]	4.9	3.9	4.7	2.4	4.1	3.4	3.5	3.0	3.3	2.3	1.1	2.2	1.9	1.3	2.0	..
Hungary																
Average nominal wages	..	3.5	4.5	6.8	6.8	6.3	5.5	9.8	8.2	6.3	6.1	6.4	6.7	4.9	5.6	7.0
Real wages	4.7	2.3	2.2	2.8	5.6	3.8	0.1	3.8	3.1	−1.7	−1.6	1.1	−0.7	−3.2	−2.4	0.5
Poland																
Average nominal wages	..	4.9	6.8	11.7	13.8	11.8	8.8	7.1	6.3	8.8	13.5	27.4	51.3	24.5	16.3	18.4
Real wages	1.7	5.6	6.4	8.7	6.5	8.8	4.3	2.4	−2.2	2.1	4.0	2.3	−24.9	1.1	0.5	3.0
Romania [b]																
Average nominal wages	..	2.6	1.8	4.3	6.4	9.0	7.3	6.2	10.6	4.8	6.2	4.6	7.9	3.0	6.6	2.0*
Real wages	..	1.7	1.6	3.2	4.7	7.5	6.1	5.8	8.2	2.3	3.5	1.0	−5.4	−1.5	6.0 [b]	1.9
Soviet Union																
Average nominal wages	4.3	3.2	3.4	3.6	4.6	3.3	3.8	2.5	3.0	2.1	3.4	2.1	2.8	2.6	2.4	2.7

Source: Statisticheskii ezhegodnik stran-chlenov SEV (CMEA statistical yearbook), various issues; national sources for 1985.

[a] Calculated as $\frac{\text{rate of average nominal monthly wages growth}}{\text{index of retail prices, service charges and fares}}$

[b] 1984 to 1980

Appendix table B.4

Money incomes of population and volume of retail trade

(Annual percentage change)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Money incomes	..	..	..	..	..	..	..	..	..	..	..	6.0	4.2	2.2	4.1	..
Retail trade turnover	..	6.5	6.7	8.8	9.1	7.8	7.3	3.1	3.6	2.3	3.0	4.6	4.5	2.4	3.8	4.7[a]
Czechoslovakia																
Money incomes	4.6	5.3	6.1	6.4	4.5	3.8	4.9	4.4	3.6	3.6	4.0	2.6	4.3	3.1	2.6	3.1
Retail trade turnover	..	5.5	6.0	5.0	7.5	2.8	2.8	2.4	3.7	−0.1	−0.3	1.5	−2.7	2.2	2.0	1.9*
German Democratic Republic																
Money incomes	3.1	3.4	6.2	6.3	5.1	3.8	3.7	5.5	3.6	3.0	2.5	3.1	2.8	2.3	3.9	4.0
Retail trade turnover	..	3.9	5.9	5.8	6.2	3.4	4.6	4.4	3.3	3.5	4.5	2.5	1.0	0.7	4.2	4.2
Hungary																
Money incomes	9.6	7.9	6.8	10.0	9.7	9.7	5.6	9.2	7.6	8.4	9.1	8.1	7.3	8.5	9.2	8*
Retail trade turnover	12.4	7.4	3.3	5.8	9.2	5.4	1.7	6.2	3.9	1.7	0.1	3.2	1.2	0.3	0.2	1.9
Poland																
Money incomes	..	10.4	13.5	14.2	14.8	14.5	12.1	12.3	8.9	9.9	12.6	31.1	64.9	23.0	18.3	23.9
Retail trade turnover	4.3	8.1	12.3	10.1	8.6	12.3	7.2	6.1	1.2	2.6	0.2	−4.6	−17.4	8.1	4.4	4
Romania																
Money incomes	..	..	..	..	..	..	10.4	8.7	13.2	7.2	9.2	6.4	9.5	5.1	5.5	4
Retail trade turnover	..	9.0	6.4	7.8	9.6	8.0	8.8	6.8	10.5	6.3	6.4	4.3	−3.8*	−1.8*	3.9*	1.8
Soviet Union																
Money incomes	7.0	5.9	6.1	6.3	6.7	6.2	5.8	4.5	5.0	4.0	5.2	3.7	4.3	3.7	3.6	..
Retail trade turnover	7.4	6.8	6.8	5.3	5.9	6.9	4.6	4.5	3.9	4.1	5.2	4.3	–	2.7	4.2	4.2

Source: National statistics, and ECE secretariat estimates.

[a] At current prices

APPENDIX TABLE B.5

Real incomes (per head of population)

(Annual percentage change)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	4.9	4.3	7.0	8.6	3.3	5.3	4.6	0.6	1.3	2.9	3.4	5.8	4.1	2.7	2.9	2.7
Czechoslovakia [a]	..	5.3	6.0	5.5	3.2	2.4	3.2	2.2	1.4	−0.1	0.1	1.6	−0.7	1.6	1.4	1.2
German Democratic Republic	..	5.4	5.7	5.7	5.8	5.8	5.0	5.9	4.2	3.4	3.1	4.0	3.3	2.3	4.0	5.0
Hungary	7.3	4.2	3.3	4.7	6.2	4.4	0.9	4.9	2.9	−0.2	0.4	2.9	0.9	1.1	1.1	1-1.5
Poland	..	6.1	7.8	10.3	5.0	8.9	5.7	5.3	0.4	2.4	1.0	3.3	−18.0	0.4	1.8	..
Romania	..	12.2	5.8	4.1	6.6	5.6	8.5	3.5	8.0	2.9	2.8	1.5	..	..	..	..
Soviet Union	5.6	4.5	4.0	5.0	4.0	4.5	3.7	3.5	3.0	3.0	3.7	3.3	0.1	2.1	3.0	2.5

Source: National statistics and ECE secretariat estimates

[a] Real money incomes

Appendix table B.6

Retail prices

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	. .	−0.1	–	0.2	0.5	0.4	0.2	0.4	1.6	4.6	13.9	0.5	0.3	1.4	0.7	. .
Czechoslovakia	1.2	−0.3	-0.3	0.3	0.5	0.6	0.8	1.3	1.6	3.9	2.9	0.8	5.1	0.9	0.9	2.3
German Democratic Republic	−0.3	−0.1	−0.7	−0.6	−0.4	–	–	−0.1	−0.1	0.3	0.4	0.2	–	–	–	. .
Hungary	1.3	1.7	3.1	3.5	2.1	4.4	4.3	4.0	4.9	9.7	9.2	4.0	6.6	7.2	8.5	6.3
Poland	0.8	1.6	−0.4	3.3	5.2	3.5	4.0	4.5	8.4	7.3	8.5	18.4	109.4	21.9	14.5	14.0
Romania	. .	0.6	–	0.7	1.1	0.2	0.7	0.5	1.6	2.0	1.9	2.1	16.9 [a]	5.2 [a]	1.1 [b]	– [b]
Soviet Union	–	−0.1	−0.2	–	−0.1	0.1	–	0.3	0.7	1.3	1.0	1.0	3.8	–	−0.9	−1.6*

Source: *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues and national statistics.

[a] International Monetary Fund, *International Financial Statistics*.

[b] January-June

APPENDIX TABLE B.7

Dwellings constructed

(*Thousands*)

	1970	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	45.7	46.5	54.2	44.1	57.2	67.6	75.9	67.8	66.2	74.3	71.4	68.2	69.7	68.9	61.2
Czechoslovakia	112.1	115.6	118.6	129.0	144.7	132.4	134.8	129.3	122.7	128.9	95.4	101.8	95.7	91.9	102.5
German Democratic Republic	65.8	69.6	80.7	88.3	100.0	103.1	106.8	111.9	117.4	120.2	125.7	122.4	122.6	121.7	120.7
Hungary	80.3	90.2	85.2	87.8	99.6	93.9	93.4	88.2	88.2	89.1	77.0	75.6	74.2	70.4	72.5
Poland	194.0	206.0	227.0	250.0	248.0	264.0	266.0	284.0	278.0	217.0	187.0	186.0	195.5	196.0	193.0
Romania	159.0	136.0	149.0	154.0	165.0	139.0	145.0	167.0	192.0	198.0	161.0	161.0	146.7	131.9	..
Soviet Union	2 266.0	2 233.0	2 276.0	2 231.0	2 228.0	2 113.0	2 111.0	2 080.0	1 932.0	2 004.0	1 997.0	2 002.0	2 030.0	2 081.0	2 000.0

Source: Statisticheskii ezhegodnik stran-chlenov SEV (CMEA statistical yearbook), various issues, plan fulfilment reports for 1985.

APPENDIX TABLE B.8

Total gross investment
(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Total	10.6	1.7	10.0	6.9	7.8	16.9	1.0	13.9	0.6	−2.3	7.5	10.5	3.6	0.7	0.3	2.5
Material sphere	..	1.0	8.9	6.6	8.3	18.0	−1.1	16.0	0.4	−1.6	5.4	12.2	2.7	−1.0	..	..
Non-material sphere	..	4.2	13.0	7.7	6.5	13.9	6.6	8.9	1.3	−4.0	14.3	5.3	6.1	5.3	..	..
Czechoslovakia																
Total	5.9	4.7	8.2	10.7	9.0	7.7	4.1	5.6	4.7	1.4	1.4	−4.6	−2.3	0.6	−4.2	5.5
Material sphere	..	5.1	6.0	14.0	9.4	7.9	5.8	6.5	4.8	3.9	2.5	−2.2	−2.1	0.6	..	..
Non-material sphere	..	4.0	12.6	4.5	8.3	7.3	0.5	3.5	4.4	−4.3	1.5	−7.3	−2.8	−1.4	..	..
German Democratic Republic																
Total	7.3	1.3	4.3	8.5	5.5	4.5	7.4	5.6	2.8	1.4	0.3	2.7	−5.2	−0.0	−4.9	4.5
Material sphere	..	0.4	3.1	8.3	4.8	4.3	7.7	4.5	1.7	1.4	1.2	2.3	−5.1	0.5	..	..
Non-material sphere	..	4.9	9.3	9.1	7.8	5.3	5.9	9.8	6.8	1.2	−3.1	4.3	−5.6	−2.1	..	..
Hungary																
Total	16.9	10.6	−1.1	3.2	10.9	11.5	–	12.1	4.8	0.7	−5.8	−4.3	−1.6	−3.4	−3.7	−3.0
Material sphere	17.3	8.6	−3.6	1.6	9.1	15.1	1.1	14.3	6.4	–	−7.8	−5.0	−2.6	−4.9	−5.4	..
Non-material sphere	19.1	16.3	6.8	10.0	8.6	8.0	−1.9	9.1	0.9	3.9	−0.3	−5.4	−1.1	2.7	1.5	..
Poland																
Total	4.0	7.4	23.0	24.4	22.3	10.7	1.2	3.1	2.1	−7.9	−12.3	−22.4	−12.1	9.4	11.4	5.0
Material sphere	..	9.4	25.3	26.1	22.9	16.1	1.7	3.4	0.7	−13.6	−13.0	−23.5	−15.3	8.2	..	..
Non-material sphere	..	1.4	16.0	19.9	19.8	7.4	4.5	8.9	5.1	6.1	−11.0	−19.9	−5.7	11.4	..	..
Romania																
Total	11.6	10.5	10.4	8.2	13.4	15.1	8.5	11.7	16.0	4.1	3.0	−7.1	3.1	2.4	6.1	1.6
Material sphere	..	12.2	10.4	8.2	12.0	13.8	9.3	13.4	17.0	3.9	3.4	−6.6	−3.2	4.9	..	..
Non-material sphere	..	2.1	9.3	8.1	19.3	21.2	5.2	4.4	11.0	5.2	1.1	−9.4	−2.7	−8.5	..	..
Eastern Europe																
Total	8.1	6.3	11.0	12.6	13.4	10.8	3.9	7.3	5.7	−1.0	−2.2	−7.1	−4.4	2.3	2.3	3.4
Material sphere	..	6.6	10.2	13.1	12.9	12.6	4.5	8.0	5.6	−2.4	−2.1	−6.6	−5.1	2.6	..	..
Non-material sphere	..	4.4	12.0	10.8	13.9	10.5	4.2	7.4	5.6	3.0	−3.0	−8.9	−3.0	1.7	..	..
Soviet Union																
Total	11.4	7.3	7.2	4.7	7.1	8.6	4.5	3.7	6.0	0.7	2.3	3.8	3.6	5.7	1.8	2.9
Material sphere	..	8.6	8.7	6.2	8.0	9.2	5.0	3.5	7.1	0.7	2.5	3.5	3.3	5.3	..	..
Non-material sphere	..	4.4	3.7	0.1	5.4	6.7	3.0	4.1	3.1	1.0	1.8	4.6	4.6	6.9	..	..
Eastern Europe and the Soviet Union																
Total	10.4	7.0	8.2	7.0	9.0	9.4	4.3	4.8	5.9	0.1	0.9	0.3	1.2	4.7	2.0	3.0
Material sphere	..	8.0	9.2	8.2	9.5	10.3	4.9	4.9	6.6	−0.3	1.0	0.4	0.9	4.6	..	..
Non-material sphere	..	4.4	5.8	3.1	7.9	7.9	3.4	5.2	4.0	1.7	0.2	0.1	2.3	5.4	..	..

Sources: National statistics and ECE secretariat estimates.

APPENDIX TABLE B.9

Gross fixed assets

(*Annual percentage change*)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Bulgaria															
Total	8.8	7.3	7.6	7.1	8.8	8.8	7.7	8.9	7.1	6.9	7.2	7.1	7.8	7.4	5.6
Material	..	8.0	8.3	7.7	11.1	9.3	7.8	9.7	7.2	7.2	8.2	7.6	7.9	6.9	4.8
Non-material	..	5.0	6.7	7.1	4.2	6.4	8.3	7.6	6.5	6.1	5.7	7.6	7.0	8.0	5.6
Czechoslovakia															
Total	5.0	4.8	5.2	4.9	5.9	6.1	6.3	4.9	5.6	5.3	5.5	5.6	4.5	4.2	3.4
Material	..	5.0	4.8	5.4	6.0	5.7	6.9	7.9	6.0	6.3	2.4	5.7	4.9	4.7	4.3
Non-material	..	5.0	4.8	5.4	5.2	6.6	6.2	2.2	7.1	2.7	7.1	4.2	4.7	3.3	4.4
German Democratic Republic															
Total	3.6	5.6	4.0	4.5	4.3	4.7	4.5	4.3	4.1	4.5	4.3	4.2	4.5	3.6	4.4
Material	..	6.0	8.7	5.4	5.9	6.4	6.0	5.0	6.1	5.7	5.4	5.2	5.5	5.2	5.1
Non-material	..	2.0	2.0	1.9	1.9	1.9	2.7	1.8	2.6	6.0	6.0	5.2	2.3	1.5	2.8
Hungary															
Total	4.0	7.2	7.8	7.3	6.8	6.3	6.4	6.0	5.7	6.2	5.9	4.9	4.3	4.7	4.4
Material	..	7.0	7.5	7.0	8.1	6.0	8.0	6.1	5.7	7.2	6.7	5.4	4.1	4.4	4.4
Non-material	..	4.0	4.8	4.6	4.4	5.0	4.8	5.4	5.1	4.9	6.0	5.8	3.6	4.1	4.4
Poland															
Total	4.9	2.7	5.3	6.3	7.6	7.7	7.1	7.6	7.0	6.6	3.5	3.4	1.8	2.1	2.8
Material	..	5.0	6.7	8.0	10.7	9.7	8.9	9.9	8.5	7.3	1.0	3.4	1.4	2.3	2.8
Non-material	..	1.0	2.0	2.9	3.8	4.5	3.5	5.0	4.8	4.6	8.0	3.4	2.6	2.5	1.8
Romania															
Total	9.4	9.1	7.9	8.9	10.4	11.5	10.3	9.6	8.8	8.8	8.5	8.2	8.7	8.7	8.6
Material	..	12.0	9.8	10.6	12.5	14.4	12.0	10.7	10.1	9.2	9.2	8.8	9.4	9.1	10.0
Non-material	..	4.0	4.8	4.6	5.3	5.8	5.5	8.2	4.1	6.6	6.2	6.4	6.6	6.2	6.7
Soviet Union															
Total	8.0	8.8	7.7	7.9	8.1	7.8	7.0	6.8	6.9	6.5	6.6	6.4	6.3	6.1	5.8
Material	..	8.0	9.3	8.5	9.4	8.6	7.2	7.4	8.0	6.9	6.9	6.5	6.9	6.9	5.7
Non-material	..	7.0	6.5	7.0	5.7	6.2	5.8	5.5	5.9	5.6	5.8	5.0	5.3	5.0	5.1

Sources: Calculated on the basis of *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook), various issues.

Appendix table B.10

Employment

(Annual percentage change)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Bulgaria																
Total	0.9	0.9	1.3	-0.1	1.0	0.4	0.2	-0.6	0.2	0.9	0.7	1.3	0.7	0.1	–	–*
Material sphere	0.3	0.9	0.7	-0.7	0.5	-0.5	-0.5	-0.6	0.1	0.8	0.1	1.2	0.6	0.1	-0.5	-0.2
Non-material sphere	5.3	0.9	5.1	4.3	4.5	5.1	4.0	-0.6	1.5	0.7	3.7	2.1	1.3	0.1	..	..
Czechoslovakia																
Total	1.1	0.3	0.1	0.6	1.0	0.7	0.5	0.8	0.9	1.0	1.0	0.7	0.4	0.4	0.9	0.9
Material sphere	1.1	0.4	-0.3	0.4	0.7	0.4	–	0.3	0.5	0.6	0.4	0.3	0.1	0.4	0.7	0.7
Non-material sphere	1.1	0.1	1.9	1.0	2.2	1.8	2.1	2.3	2.1	2.4	3.0	1.9	1.3	0.3	1.1	1.8
German Democratic Republic																
Total	0.2	0.4	0.2	0.5	0.6	0.5	1.0	0.8	0.8	0.7	0.4	0.5	0.6	0.7	0.5	0.5*
Material sphere	-0.1	0.1	-0.1	0.1	0.3	0.3	0.8	0.6	0.6	0.4	0.2	0.2	0.2	0.4	0.3*	0.3*
Non-material sphere	1.7	2.6	1.6	2.4	1.8	1.6	1.8	1.7	1.7	2.1	1.2	1.7	2.0	1.9	..	..
Hungary																
Total	0.6	0.6	0.4	0.2	0.2	0.2	-0.2	-0.2	0.2	-0.1	-1.2	-0.3	-0.6	-0.6	-0.5	-0.7
Material sphere	0.3	0.2	0.1	-0.3	-0.3	-0.4	-0.9	-0.5	-0.2	-0.8	-1.7	-0.1	0.2	-1.1	-1.1	-1*
Non-material sphere	2.2	2.4	2.5	2.9	3.1	2.7	2.9	0.7	2.1	2.8	0.9	-0.8	0.6	-3.5	..	..
Poland																
Total	1.2	2.0	2.6	2.3	2.0	1.7	0.3	1.3	0.4	0.8	0.3	0.8	-2.9	-0.3	0.3	0.7
Material sphere	2.0	1.4	2.3	1.9	1.7	1.9	–	1.2	0.1	0.5	-0.1	0.2	-3.1	-0.8	-0.3	-0.2
Non-material sphere	-3.1	5.7	4.5	4.5	3.4	4.0	1.9	2.0	2.0	2.5	2.3	4.0	-2.1	2.4	..	..
Romania																
Total	-0.5	0.3	–	-0.2	0.4	0.8	0.4	0.3	0.6	0.4	0.1	0.2	0.7	0.6	0.1	–
Material sphere	-0.4	-0.1	-0.4	-0.2	0.1	0.4	-0.2	0.2	0.3	-0.2	0.3	-0.6	0.5	0.7	0.2	–*
Non-material sphere	-1.0	2.9	3.0	0.1	3.1	3.6	5.0	0.7	2.5	3.8	-1.3	2.0	1.7	-0.2	..	..
Eastern Europe																
Total	0.6	1.0	1.0	0.9	1.1	1.0	0.4	0.6	0.5	0.6	0.2	0.5	-1.7	0.3	..	..
Material sphere	0.7	0.6	0.6	0.5	0.7	0.8	0.1	0.5	0.2	0.3	-0.1	0.1	-0.9	0.2	..	..
Non-material sphere	–	3.0	3.1	2.7	2.9	1.9	2.6	1.5	2.0	2.5	1.6	2.3	0.3	0.8	..	..
Soviet Union																
Total	1.2	2.2	1.7	1.3	1.6	1.2	1.3	1.5	1.6	1.3	1.2	1.0	0.9	0.6	0.6	0.4*
Material sphere	0.9	1.5	1.1	0.7	1.1	1.0	1.1	1.2	1.2	0.8	0.7	0.7	0.7	0.5	0.4	0.1*
Non-material sphere	2.2	4.6	3.5	3.4	3.0	2.0	2.1	2.5	2.7	2.9	2.6	1.8	1.3	1.1	1.1	..
Eastern Europe and the Soviet Union																
Total	1.3	1.7	1.7	1.6	1.6	1.4	1.1	1.2	1.3	1.1	0.9	0.8	0.4	0.5	..	..
Material sphere	1.1	1.2	1.2	1.2	1.3	1.1	1.0	1.0	0.9	0.6	0.5	0.5	0.2	0.4	..	..
Non-material sphere	2.5	3.4	3.4	3.3	3.0	2.7	1.5	2.2	2.5	2.2	2.3	1.9	1.0	1.0	..	..

Sources: National statistics and ECE secretariat estimates.

APPENDIX TABLE B.11

Gross industrial production
(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	9.6	9.2	9.1	9.0	8.2	9.6	6.8	6.8	6.9	5.4	4.2	4.9	4.6	4.3	4.2	4.0
Czechoslovakia	8.4	6.9	6.6	6.8	6.2	7.0	5.5	5.6	5.0	3.7	3.5	2.1	1.1	2.8	4.0	3.4
German Democratic Republic	6.7	5.7	6.0	6.7	7.2	6.4	5.9	4.8	4.8	4.6	4.7	4.7	3.2	4.1	4.2	4.4
Hungary	7.9	6.7	5.2	7.0	8.4	4.7	4.5	5.7	5.4	3.1	−1.7	2.4	2.5	1.2	3.2	1.0
Poland	8.1	7.9	10.7	11.3	11.4	10.9	9.3	6.9	4.9	2.7	–	−10.8	−2.1	6.4	5.2	3.8
Romania	12.1	11.6	11.8	14.7	14.6	12.0	11.4	12.6	9.0	8.1	6.5	2.6	1.1	4.7	6.7	4.9
Eastern Europe	8.4	7.6	8.3	9.2	9.4	8.8	7.6	7.1	5.8	4.5	3.0	−0.6	1.2	4.4	4.8	4.0
Soviet Union	8.5	7.7	6.5	7.5	8.0	7.6	4.8	5.7	4.8	3.4	3.6	3.4	2.9	4.2	4.1	3.9
Eastern Europe and the Soviet Union	8.5	7.7	7.0	8.0	8.4	7.9	5.6	6.1	5.1	3.7	3.4	2.2	2.4	4.3	4.3	3.9

Sources: National statistics and ECE secretariat estimates

APPENDIX TABLE B.12

Industry: gross fixed investment, gross fixed assets [a] and employment

(Annual percentage change)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Bulgaria																
Investment	5.4	−1.1	3.0	8.1	1.3	19.9	1.7	17.7	1.1	−0.2	9.1	10.4	10.1	−2.9	4.3	..
Fixed assets	7.3	6.8	9.3	9.2	12.9	8.9	6.7	5.8	8.6	8.2	10.2	8.1	9.8	7.5	5.7	..
Employment	1.1	3.8	2.6	1.8	2.9	2.6	1.1	0.6	1.4	1.6	1.5	2.8	2.4	1.4	0.8	0.4*
Czechoslovakia																
Investment	5.5	4.6	2.9	15.6	8.1	5.0	8.4	7.3	3.2	6.6	3.6	−1.4	−4.4	−3.0	−4.8	..
Fixed assets	5.7	5.3	5.0	5.7	5.7	6.3	6.9	6.2	5.6	5.9	5.9	6.7	5.2	4.6	4.4	..
Employment	1.2	0.2	0.8	0.9	0.4	0.7	0.1	0.5	0.8	0.6	0.5	0.6	0.4	0.5	0.7	0.6
German Democratic Republic																
Investment	13.3	3.5	6.7	10.2	−0.6	1.2	8.2	6.7	5.4	3.6	4.2	3.2	−1.5	4.0	−7.6	..
Fixed assets	6.1	6.2	6.3	6.3	6.5	8.3	5.4	5.4	5.4	5.1	6.0	6.0	6.2	5.8	5.8	..
Employment	0.1	0.4	0.2	0.8	0.1	–	0.9	0.7	0.7	0.6	0.1	0.5	0.3	0.3	0.4	0.5*
Hungary																
Investment	9.9	11.3	0.6	−0.2	9.3	10.8	8.0	23.3	3.3	−1.8	−11.5	−8.1	0.2	−2.5	−2.2	..
Fixed assets	8.0	8.4	8.1	7.4	7.2	9.9	6.7	7.3	9.1	8.1	6.4	4.3	4.9	5.7	5.5	..
Employment	−0.8	0.1	1.1	1.1	−0.3	−1.2	−1.4	−0.7	−1.0	−2.1	−2.6	−2.4	−2.2	−2.1	−0.3	−0.6*
Poland																
Investment	0.9	10.6	34.8	27.7	22.2	11.4	2.3	−2.4	−4.7	−15.4	−13.9	−27.2	−12.9	6.2	13.7	..
Fixed assets	8.6	6.7	9.3	9.8	13.0	11.0	9.8	11.8	8.9	7.4	4.6	3.4	2.4	2.8	3.0	..
Employment	1.9	3.0	3.9	2.9	2.4	2.6	0.2	1.0	−0.2	−0.1	0.1	−0.2	−4.7	−0.1	0.7	−0.6*
Romania																
Investment	3.8	12.9	15.0	19.8	3.8	10.7	4.9	16.3	20.4	7.4	2.6	−5.8	−9.6	5.5	11.1	..
Fixed assets	13.4	13.0	10.6	12.0	14.3	15.6	11.9	10.7	9.7	9.6	10.1	9.1	9.5	9.4	9.6	..
Employment	4.3	6.6	5.6	6.9	7.1	5.3	3.8	4.1	2.6	3.9	3.2	2.0	2.1	1.7	−0.2	0.1*
Eastern Europe																
Employment	1.3	2.2	2.5	2.4	2.0	1.8	0.8	1.2	0.7	0.8	0.6	0.5	−0.9	0.4	0.4	0.2*
Soviet Union																
Investment	11.0	6.0	7.2	5.6	7.2	9.3	4.7	4.5	4.9	0.2	4.2	4.0	2.8	5.5	2.0	..
Fixed assets	9.4	9.0	8.3	8.3	7.7	9.7	8.1	7.0	7.9	7.1	7.8	7.0	6.9	6.8	6.4	..
Employment	1.4	1.4	1.3	1.3	1.7	1.9	2.2	1.7	1.7	1.3	1.1	0.9	1.0	0.6	0.3	0.4
Eastern Europe and Soviet Union																
Employment	1.4	1.6	1.7	1.7	1.8	1.8	1.7	1.5	1.3	1.1	0.9	0.8	0.4	0.5	0.3	0.3*

Sources: National statistics and ECE secretariat estimates.

[a] Undepreciated.

APPENDIX TABLE B.13

Gross agricultural output

(Annual percentage change)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Total	3.9	1.9	5.6	1.3	−1.5	7.5	4.1	−4.7	4.3	6.1	−4.6	5.9	5.2	−7.2	7.0	−11.1
Crop	2.3	−0.3	8.5	0.2	−7.5	7.8	5.6	−9.5	4.5	5.6	−8.8	10.2	7.9	−17.4	14.4	−21.6
Animal	6.9	6.1	1.4	3.1	7.4	7.3	2.0	2.0	4.0	6.5	0.3	2.2	2.6	3.0	1.1	−1.5
Czechoslovakia																
Total	1.3	2.0	4.3	3.8	2.2	−1.0	−3.2	9.4	2.1	−3.3	4.8	−2.5	4.4	4.2	4.4	−1.6
Crop	−4.5	0.4	4.5	4.0	1.5	−2.6	−8.2	16.8	1.7	−7.2	6.2	−5.3	13.8	2.8	6.1	−3.5
Animal	6.3	3.3	4.1	3.6	2.7	0.2	0.5	4.3	2.4	−0.3	3.9	−0.5	−2.0	5.4	3.2	−0.2
German Democratic Republic																
Total	4.1	−0.3	10.0	−0.3	7.2	−2.5	−5.0	7.1	1.1	3.1	0.7	1.6	−4.0	4.1	6.2	3.0
Crop	10.5	−5.9	18.3	−7.8	8.8	−9.6	−12.5	20.9	–	5.3	−3.7	1.9	2.0	1.2	14.0*	1.4*
Animal	–	4.0	4.4	5.3	6.1	2.2	−0.7	−0.1	1.7	1.8	3.5	1.5	−7.4	6.0	6.0*	..
Hungary																
Total	−5.7	7.6	2.6	6.3	3.2	3.7	−2.7	10.9	1.1	−1.5	4.6	2.0	7.3	−2.7	2.9	−6.0
Crop	−16.4	9.5	5.8	7.8	0.5	4.8	−7.1	12.3	−1.5	−3.2	7.6	1.6	9.4	−7.5	4.9	..
Animal	10.4	5.5	−1.0	4.5	6.4	2.5	2.7	9.6	3.8	0.1	1.9	2.4	5.3	2.2	1.0	..
Poland																
Total	2.2	3.6	8.4	7.3	1.6	−2.1	−1.2	1.4	4.1	−1.5	−10.7	3.8	−2.8	3.3	5.7	0.9
Crop	4.4	1.4	7.8	6.5	−0.7	−3.0	5.0	−7.2	5.4	−3.7	−15.2	18.9	−2.5	5.9	7.4	−2.2
Animal	−1.1	6.6	9.0	8.2	4.2	−1.0	−8.7	13.7	2.6	1.3	−5.6	8.9	−3.2	0.4	3.7	4.6
Romania																
Total	−4.9	18.9	9.5	0.7	1.1	3.2	17.3	−0.9	2.7	5.5	−4.4	−0.9	7.6	−1.6	13.3	0.1
Crop	−11.8	26.3	7.6	−3.2	0.7	–	22.0	−5.0	0.3	6.2	−6.1	0.6	12.8	−5.2	20.3	..
Animal	5.5	8.9	12.5	7.7	1.4	6.7	11.5	5.6	5.6	4.8	−2.3	−2.8	0.2	3.7	4.4	..
Eastern Europe																
Total	0.5	5.2	7.6	4.0	2.4	0.2	1.2	3.3	2.8	0.8	−3.7	1.8	1.6	0.9	6.7	−0.9
Crop	−1.2	4.0	8.7	2.0	0.8	−1.8	1.9	1.4	2.3	−0.4	−6.0	6.7	5.0	−1.0	9.8	..
Animal	2.8	5.9	6.4	6.3	4.3	1.9	−0.8	7.4	3.2	2.1	−1.2	−2.9	−1.5	3.0	3.3	..
Soviet Union																
Total	10.3	1.1	−4.1	16.1	−2.7	−5.3	6.5	4.0	2.7	−3.1	−1.9	−1.0	5.5	6.2	−0.1	–
Crop	11.9	−1.3	7.7	27.1	10.0	10.5	18.4	−1.8	5.0	−5.9	−2.3	−2.4	9.2	6.0	−1.9	..
Animal	8.7	3.5	−0.6	6.2	5.2	−2.5	−2.4	9.4	0.8	−0.7	−1.6	0.1	2.6	6.3	1.4	..
Eastern Europe and the Soviet Union																
Total	7.0	2.4	−0.4	11.9	−1.1	−3.5	4.6	3.8	2.7	−1.8	−2.5	−0.1	4.2	4.4	2.1	−0.3
Crop	7.6	0.3	−2.5	18.3	−6.7	−7.6	12.7	−0.8	4.1	−4.2	−3.5	0.5	7.8	3.7	1.8	..
Animal	8.7	3.5	0.6	6.2	5.2	−2.5	2.4	9.4	0.8	−0.7	−1.2	−1.0	1.1	5.1	2.0	..

Sources: National statistical yearbooks, plan fulfilment reports for 1985. *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues.

APPENDIX TABLE B.14

Agricultural gross fixed investment, gross fixed assets [a] and employment

(Annual percentage change)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Investment	6.7	3.7	11.5	3.8	17.1	5.1	1.4	10.9	−9.8	−1.7	6.9	10.7	−18.6	1.6	2.6	..
Fixed assets	6.9	6.6	6.3	6.4	−0.4	14.5	7.3	5.3	4.7	4.5	5.3	−2.3	5.3	5.2	2.6	..
Employment	−4.1	−4.2	−2.0	−4.1	−3.5	−6.4	−4.9	−4.0	−2.5	0.1	−1.8	−1.5	−2.8	−3.7	−3.2	..
Czechoslovakia																
Investment	−5.0	5.3	9.7	19.3	10.2	13.3	−1.1	6.3	6.4	−6.7	−3.7	6.5	5.2	13.7	1.5	..
Fixed assets	5.7	5.5	5.5	5.5	6.3	6.8	7.2	6.4	6.8	6.3	6.0	6.3	5.4	5.8	5.6	..
Employment	−0.9	−1.4	−6.2	−3.0	−0.8	−2.3	−2.1	−2.3	−1.9	−0.7	−0.2	–	−0.8	−1.4	0.9	..
German Democratic Republic																
Investment	−0.6	2.2	−2.6	4.9	9.1	0.7	2.9	3.5	−3.3	−4.3	−0.4	2.9	−7.6	−9.3	−10.6	..
Fixed assets	5.0	5.6	4.8	5.6	4.3	4.2	5.9	5.5	5.2	3.8	5.4	4.9	4.9	4.8	4.0	..
Employment	−3.3	−2.4	−3.7	−1.9	−1.4	−0.8	−1.4	−0.5	0.5	−0.2	0.3	0.4	0.6	1.5	2.3	..
Hungary																
Investment	25.0	–	−13.3	–	7.7	14.3	−5.7	8.8	9.5	−2.0	−11.2	8.0	−1.0	−15.4	9.7	..
Fixed assets	8.4	9.3	8.6	8.6	6.9	7.0	5.9	5.9	5.8	5.6	4.3	4.3	4.3	3.4	2.7	..
Employment	−2.2	−2.4	−2.6	−4.3	−3.1	−2.1	−1.8	−1.2	0.2	0.9	−0.6	4.4	0.4	−1.0	−3.4	..
Poland																
Investment	3.1	4.4	14.3	17.6	17.6	15.7	1.3	13.5	5.1	−3.6	−17.1	−12.7	−15.6	4.5	4.0	..
Fixed assets	4.5	3.2	4.4	5.4	6.2	6.1	7.0	7.2	7.0	6.6	5.6	4.2	2.7	1.9	2.5	..
Employment	−0.3	−0.3	−1.4	−1.8	−1.6	1.4	−0.4	1.4	−0.2	1.7	0.2	1.1	−0.5	−0.5	1.9	..
Romania																
Investment	11.6	11.0	2.7	–	8.9	14.5	12.2	12.1	11.4	−1.7	4.4	10.4	−2.2	8.9	9.3	..
Fixed assets	7.3	10.0	9.1	9.2	9.2	10.5	7.6	10.6	6.9	7.0	5.6	8.8	10.1	9.9	9.4	..
Employment	− .6	−4.4	−4.9	−4.4	−4.3	−4.5	−4.7	−4.1	−4.1	−4.7	−4.6	−2.7	−1.0	0.2	0.8	..
Eastern Europe																
Employment	−2.2	−2.4	−3.2	−3.1	−2.7	−1.9	−2.4	−1.3	−1.6	−0.7	−1.3	–	−0.7	−1.0	−1.1	..
Soviet Union																
Investment	13.5	14.8	9.5	10.3	8.7	7.2	4.2	2.6	4.6	1.6	1.6	2.4	1.1	3.6	6.9	..
Fixed assets	5.2	6.6	9.7	10.5	10.2	10.6	7.8	7.8	7.7	6.7	6.7	6.7	7.1	5.9	6.3	..
Employment	−1.5	−0.7	−0.6	−0.5	0.1	−1.3	0.4	−0.7	−0.2	−1.1	−0.5	−0.4	0.4	0.4	0.2	..
Eastern Europe and the Soviet Union																
Employment	−1.8	−1.3	−1.5	−0.8	−0.9	−1.5	−0.5	−0.9	−0.6	−1.0	−0.8	−0.4	0.1	0.2	−0.2	..

Sources: National statistical yearbooks; *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues.

[a] Undepreciated

APPENDIX TABLE B.15

Export and import volumes

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*[a]
Bulgaria																
Exports	8.7	8.0	11.6	9.6	8.3	12.4	13.4	14.3	10.7	13.7	12.2	8.4	11.3	4.4	11.6	4.0
Imports	4.7	13.3	13.3	10.7	21.9	12.6	−2.3	5.3	7.1	2.1	4.1	9.3	3.2	5.2	5.6	6.5
Czechoslovakia																
Exports	20.7	8.4	7.7	3.5	5.0	6.8	7.5	9.1	7.1	3.2	4.7	0.5	6.1	5.7	8.5	2.5
Imports	15.9	5.9	4.1	9.8	10.9	1.9	3.4	7.1	3.6	2.2	−1.6	−6.9	2.9	2.0	4.8	3.0
German Democratic Republic																
Exports	8.8	10.3	11.9	7.4	8.4	7.2	5.8	4.2	7.4	8.9	3.6	8.4	5.4	10.6	3.7	2.0
Imports	15.9	2.0	7.6	13.1	8.7	5.0	11.1	4.6	−0.2	6.5	5.1	−6.3	0.4	5.3	5.7	2.0
Hungary																
Exports	7.6	7.6	19.3	12.5	3.5	4.8	8.2	12.6	1.5	12.5	1.0	2.6	7.3	9.4	5.8	1.0
Imports	27.1	17.3	−5.1	2.9	17.5	5.7	3.9	8.5	12.5	−3.3	−1.1	0.1	−0.1	3.9	0.1	2.0
Poland																
Exports	10.1	6.5	15.2	11.0	12.8	8.3	5.3	7.0	5.7	6.8	−4.2	−19.0	8.7	10.3	9.5	1.7
Imports	10.4	13.8	22.1	22.7	14.1	5.0	10.2	0.2	1.6	−1.2	−1.9	−16.9	−13.7	5.2	8.6	6.8
Romania[a]																
Exports	5.2	10.7	8.0	18.3	6.1	3.3	9.6	9.1	4.1	2.1	4.4	13.6	−7.6	0.9	15.1	2.0
Imports	7.9	3.5	11.8	9.7	15.8	−4.2	9.7	8.6	16.1	4.0	3.7	−7.2	−22.8	−5.0	9.9	10.3
Eastern Europe[b]																
Exports	10.8	8.6	12.2	9.6	7.7	7.1	7.6	8.6	6.1	7.6	2.9	1.2	5.6	7.4	8.3	2.1
Imports	14.3	8.6	8.6	12.5	13.6	4.2	6.9	4.9	5.2	1.7	1.2	−5.2	−5.8	3.4	5.6	4.6
Soviet Union																
Exports	6.1	3.2	2.7	14.4	2.6	2.5	8.6	10.6	3.4	0.6	1.6	1.9	4.6	3.3	2.5	−4.0
Imports	7.8	5.9	17.2	14.6	1.0	14.8	7.0	0.9	13.3	1.1	7.5	6.4	9.8	4.0	4.4	5.0
Eastern Europe[b] *and the Soviet Union*																
Exports	8.5	6.0	7.8	11.7	5.4	5.1	8.0	9.5	4.9	4.6	2.4	1.5	5.1	5.7	6.0	−0.5
Imports	11.6	7.5	12.1	13.4	8.3	8.4	6.9	3.2	8.6	1.5	3.9	−0.1	1.5	3.7	5.0	4.8

Sources: National statistics and ECE secretariat estimates for Romania.

[a] ECE secretariat estimates.

[b] 1975 weights.

APPENDIX TABLE B.16

Energy production: electricity, coal and crude oil

(*Billion kWh, million tons*)

	1970	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria															
Electricity	19.5	22.3	21.9	22.8	25.2	27.7	29.7	31.5	32.5	34.8	37.0	40.5	42.6	44.7	41.6
Coal	29.2	27.3	26.8	24.3	27.8	25.5	25.2	25.8	28.2	30.2	29.2	32.2	32.4	32.4	31.0
Oil	0.3	0.2	0.2	0.1	0.1	0.1	..	..	..	..	..	..	..	..	..
Czechoslovakia															
Electricity	45.2	51.4	53.5	56.0	59.3	62.7	66.5	69.1	68.1	72.7	73.5	74.7	76.3	78.4	80.6
Coal	109.5	112.9	109.0	110.1	114.4	117.7	121.2	123.2	124.6	123.1	122.8	124.6	127.4	129.3	126.6
Oil	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
German Democratic Republic															
Electricity	67.7	72.8	76.9	80.3	84.5	89.1	92.0	96.0	96.8	98.8	100.7	102.9	104.9	110.1	113.8
Coal	262.5	249.2	247.0	244.1	247.2	247.3	254.0	253.3	256.1	258.1	266.7	276.0	278.0	296.3	312.0
Oil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungary															
Electricity	14.5	16.3	17.6	19.0	20.5	22.0	23.4	25.6	24.5	23.9	24.3	24.7	25.7	26.2	26.7
Coal	27.8	25.8	26.8	25.8	24.9	25.3	25.5	25.7	25.7	25.7	25.9	26.1	25.2	25.0	24.0
Oil [a]	1.9	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Poland															
Electricity	64.5	76.5	84.3	91.6	97.2	104.1	109.4	115.6	117.5	121.9	115.0	117.6	125.8	134.8	137.5
Coal	172.9	188.9	195.8	201.8	211.5	218.6	226.9	233.6	239.1	230.0	198.6	227.0	233.6	242.0	249.4
Oil	0.4	0.3	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	2.0
Romania															
Electricity	35.1	43.3	46.8	49.1	53.7	58.3	59.9	64.3	64.9	67.5	70.1	68.9	70.3	71.6	71.8
Coal	20.5	23.2	24.8	26.9	27.1	25.8	26.8	29.3	32.8	35.2	36.9	37.9	44.5	44.3	46.6
Oil	13.4	14.1	14.3	14.5	14.6	14.7	14.6	13.7	12.3	11.5	11.6	11.7	11.6	11.4	10.7
Eastern Europe															
Electricity	246.5	282.6	301.0	318.8	340.4	363.9	380.9	402.1	404.3	419.6	420.6	429.3	445.6	465.8	472.0
Coal	622.4	627.3	630.2	633.0	652.9	660.2	679.5	690.9	706.6	702.3	680.1	723.8	741.1	769.3	789.6
Oil	16.3	16.9	17.0	17.3	17.5	17.5	17.3	16.4	14.8	14.4	14.5	14.6	13.9	13.7	13.5
Soviet Union															
Electricity	740.9	857.4	914.6	975.7	1 038.6	1 111.4	1 150.1	1 201.9	1 238.2	1 294.0	1 326.0	1 367.0	1 418.0	1 492.0	1 545.0
Coal	577.5	603.6	614.7	630.5	644.9	654.4	663.3	664.4	657.6	652.9	637.8	647.3	641.6	635.2	647.9
Oil	353.0	400.4	429.0	458.9	490.8	519.7	545.8	571.5	585.6	603.2	608.8	612.6	616.3	612.7	595.0
Eastern Europe and the Soviet Union															
Electricity	987.4	1 140.0	1 215.6	1 294.5	1 379.0	1 475.3	1 531.0	1 604.0	1 642.5	1 713.6	1 746.6	1 796.3	1 863.6	1 957.8	2 017.0
Coal	1 199.9	1 230.9	1 244.9	1 263.5	1 297.8	1 314.6	1 342.8	1 355.3	1 364.2	1 355.2	1 317.9	1 371.1	1 382.7	1 404.5	1 437.5
Oil	369.3	417.3	446.0	476.2	508.3	537.2	563.1	587.9	600.4	617.6	623.4	627.2	630.2	626.4	508.5

Sources: *Staticheskii ezhegodnik stran-chlenov SEV*, (CMEA Statistical Yearbook), various issues, plan fulfilment report for 1985 and ECE secretariat estimates.

[a] Excluding gas condensate.

APPENDIX TABLE B.17

Steel production

(*Million tons*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria	1.8	1.9	2.1	2.2	2.2	2.3	2.5	2.6	2.5	2.5	2.6	2.5	2.6	2.8	2.9	2.9
Czechoslovakia	11.5	12.1	12.7	13.2	13.6	14.3	14.7	15.1	15.3	14.8	15.2	15.3	15.0	15.0	14.8	15.0
German Democratic Republic	5.0	5.3	5.7	5.9	6.2	6.5	6.7	6.8	7.0	7.0	7.3	7.5	7.2	7.2	7.6	7.8
Hungary	3.1	3.1	3.3	3.3	3.5	3.7	3.7	3.7	3.9	3.9	3.8	3.6	3.7	3.6	3.8	3.6
Poland	11.8	12.7	13.5	14.1	14.6	15.0	15.6	17.8	19.2	19.2	19.5	15.7	14.8	16.2	16.5	16.1
Romania	6.5	6.8	7.4	8.2	8.8	9.5	10.7	11.5	11.8	12.9	13.2	13.0	13.0	12.6	14.4	13.8
Eastern Europe	39.7	41.9	44.7	46.9	48.9	51.3	53.8	57.5	59.7	60.3	61.6	57.6	56.3	57.4	60.0	59.2
Soviet Union	115.9	120.7	125.6	131.5	136.2	141.3	144.8	146.7	151.4	149.1	147.9	148.4	147.2	152.5	154.2	155.0
Eastern Europe and the Soviet Union	155.6	162.6	170.3	178.4	185.1	192.6	198.6	204.2	211.1	209.4	209.5	206.0	203.5	209.9	214.2	214.2

Sources: As for Appendix table B.16

APPENDIX TABLE B.18

Grain production

(*Million tons*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Bulgaria																
Total	6.9	7.2	8.2	7.4	6.7	7.8	8.6	7.7	7.6	8.4	7.7	8.5	10.1	8.0	9.3	..
Wheat	3.0	3.1	3.6	3.3	2.9	2.8	3.5	3.4	3.5	3.4	3.8	4.4	4.9	3.6	4.8	3.6[a]
Maize	2.4	2.5	3.0	2.6	1.6	2.8	3.0	2.5	2.2	3.2	2.3	2.4	3.4	3.1	2.3	3.0[a]
Czechoslovakia																
Total	7.3	8.9	8.7	9.7	10.5	9.4	9.2	10.5	11.1	9.3	10.9	9.5	10.4	11.2	12.0	11.7[a]
Wheat	3.2	3.9	4.0	4.6	5.1	4.2	4.8	5.2	5.6	3.7	5.4	4.3	4.6	5.8	6.2	6.0[a]
Maize	0.5	0.5	0.6	0.6	0.6	0.8	0.5	0.8	0.6	0.9	0.7	0.7	0.9	0.7	0.9	1.1[a]
German Democratic Republic																
Total	6.5	7.8	8.6	8.6	9.8	9.0	8.2	8.8	9.9	9.0	9.7	8.9	10.1	10.2	11.3	11.6[a]
Wheat	2.1	2.5	2.7	2.9	3.2	2.7	2.7	2.9	3.1	3.1	3.1	2.9	2.7	3.6	3.9	3.9
Maize	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hungary																
Total	7.8	10.0	10.9	11.8	12.6	12.4	11.5	12.4	13.5	12.2	14.2	13.0	15.1	13.9	15.7	14.8
Wheat	2.7	3.9	4.1	4.5	5.0	4.0	5.1	5.3	5.7	3.7	6.1	4.6	5.8	6.0	7.4	6.9[a]
Maize	4.1	4.7	5.6	6.0	6.2	7.2	5.1	6.0	6.7	7.4	6.7	7.0	8.0	6.4	6.7	6.7[a]
Poland																
Total	16.6	20.2	20.7	22.2	23.3	19.8	21.1	19.6	21.8	17.6	18.5	19.9	21.4	22.4	24.4	23.7
Wheat	4.6	5.5	5.1	5.8	6.4	5.2	5.7	5.3	6.0	4.2	4.2	4.2	4.5	5.2	6.0	6.5[a]
Maize			–	–	–	–	–	–	–	–	–	–	–	–	–	–
Romania																
Total	10.9	14.8	17.1	14.0	13.7	15.4	19.9	18.7	19.1	19.4	20.3	20.1	22.5	19.6	23.6	23.0
Wheat	3.4	5.6	6.0	5.5	5.0	4.9	6.8	6.5	6.3	4.7	6.5	5.3	6.5	5.1	5.7	5.0[a]
Maize	6.5	7.9	9.8	7.4	7.4	9.2	11.6	10.1	10.2	12.4	11.2	11.9	12.6	12.0	13.3	8.4[a]
Eastern Europe																
Total	56.0	68.9	74.2	73.7	76.6	73.8	78.5	77.7	83.0	75.9	81.3	79.9	89.6	85.3	96.3	..
Wheat	19.0	24.5	25.5	26.6	27.6	23.8	28.6	28.6	30.2	22.8	29.1	25.7	29.0	29.3	35.9	31.9[a]
Maize	13.5	15.6	19.0	16.6	15.8	20.0	20.2	19.4	19.7	23.9	20.9	22.0	24.9	21.7	24.0	19.2
Soviet Union																
Total	186.8	181.2	168.2	222.5	195.7	140.1	223.8	195.7	237.4	179.3	189.1	160.0[a]	172.0[a]	186.9	162.5	190.0[a]
Wheat	99.7	98.8	86.0	109.8	83.9	66.2	96.9	92.2	120.9	90.3	98.2	80.0	87.0[a]	72.0[a]	75.0[a]	86.0[a]
Maize	9.4	8.6	9.8	13.2	12.1	7.3	10.1	11.0	8.9	8.4	9.5	8.0[a]	12.0[a]	13.0[a]	13.0[a]	13.5[a]
Eastern Europe and the Soviet Union																
Total	242.8	250.1	242.4	296.2	272.3	213.9	302.3	273.4	320.4	255.2	270.4	239.9	268.6	285.3	258.8	273.9[a]
Wheat	118.7	123.3	111.5	136.4	111.5	90.0	125.5	120.8	151.1	113.1	127.3	105.7	113.0	116.3	110.9	117.9[a]
Maize	22.9	24.2	28.8	29.8	27.9	27.3	30.3	30.4	28.6	32.3	30.4	30.0	35.9	35.7	37.0	32.7[a]

Sources: *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues; plan fulfilment reports.

[a] FAO estimate

APPENDIX TABLE B.19

Meat production [a]

(*Million tons*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*
Bulgaria	0.48	0.52	0.57	0.57	0.56	0.66	0.73	0.70	0.73	0.78	0.78	0.79	0.81	0.84	0.85
Czechoslovakia	1.10	1.16	1.23	1.24	1.31	1.35	1.32	1.38	1.45	1.47	1.50	1.53	1.41	1.49	1.54
German Democratic Republic	1.35	1.41	1.52	1.59	1.71	1.84	1.81	1.77	1.81	1.82	1.90	2.00	1.84	1.87	1.99
Hungary	1.04	1.22	1.29	1.22	1.34	1.42	1.32	1.47	1.48	1.52	1.57	1.58	1.69	1.79	1.83
Poland	2.18	2.21	2.48	2.73	3.06	3.06	2.90	2.88	3.14	3.26	3.14	2.53	2.58	2.50	2.53
Romania	0.88	0.90	1.06	1.20	1.31	1.37	1.45	1.55	1.58	1.76	1.77	1.79	. .	. .	. .
Eastern Europe	7.03	7.42	8.15	8.55	9.29	9.70	9.53	9.75	10.19	10.61	10.66	10.22	. .	. .	. .
Soviet Union	12.28	13.27	13.63	13.53	14.62	14.97	13.58	14.72	15.50	15.34	15.07	15.20	15.37	16.45	16.9
Eastern Europe and the Soviet Union	19.31	20.69	21.78	22.08	23.91	24.67	23.11	24.47	25.69	25.95	25.73	25.42	. .	. .	. .

Sources: *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA statistical yearbook), various issues.

[a] Slaughter weight

Appendix C. International trade and payments

APPENDIX TABLE C.1

World trade: value, by region
(Billion US dollars)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*[a]
Exports																
Developed market economies	217.7	243.6	289.2	393.5	532.5	563.3	626.6	710.8	852.7	1 044.6	1 232.8	1 214.3	1 151.8	1 137.3	1 211.9	897.9
North America	60.0	62.5	71.0	97.8	133.1	142.2	156.0	164.8	192.2	240.3	288.5	306.5	283.5	277.0	308.2	227.9
Western Europe[b]	132.2	149.8	180.0	246.0	327.2	347.9	383.3	443.0	535.4	667.7	771.4	712.0	684.9	669.0	683.1	512.9
Japan	19.3	24.1	29.1	37.0	55.5	55.8	67.3	81.1	98.2	102.3	130.4	151.5	138.4	147.0	169.7	126.7
Developing market economies	54.9	61.5	73.1	109.1	224.9	209.5	251.0	286.4	298.3	416.3	561.1	546.6	470.0	436.2	444.0	271.5
Fuel exporters[c]	16.9	22.1	26.3	39.8	124.9	113.0	136.9	150.2	144.5	215.5	301.6	280.7	217.5	175.9	160.9	77.1
Non-fuel exporters	38.0	39.4	46.8	69.3	100.1	96.5	114.1	136.2	153.8	200.8	259.5	265.8	252.5	260.4	283.1	194.4
European centrally planned economies	30.9	33.7	40.0	52.4	65.3	78.1	85.0	98.9	113.0	135.7	156.2	158.0	166.0	174.3	177.2	122.3
Eastern Europe	18.1	19.9	24.6	31.1	37.9	44.8	47.9	53.8	60.6	71.0	79.7	78.7	79.0	82.9	86.0	61.2
Soviet Union	12.8	13.8	15.5	21.3	27.4	33.3	37.2	45.2	52.3	64.7	76.5	79.4	87.0	91.4	91.2	61.1
Total above	303.5	338.9	402.3	554.9	822.7	850.9	962.6	1 096.2	1 264.0	1 596.7	1 950.1	1 918.9	1 787.8	1 747.9	1 833.1	1 292.7
Memorandum item																
ECE region	229.3	253.2	300.1	408.9	542.3	585.5	644.3	728.7	867.4	1 078.1	1 258.5	1 220.9	1 179.4	1 164.7	1 219.4	894.5
Imports																
Developed market economies	227.8	253.9	302.9	416.2	593.3	596.6	687.2	779.9	898.9	1 153.5	1 383.4	1 309.0	1 228.2	1 211.9	1 317.8	978.3
North America	56.9	65.3	79.4	99.0	145.3	142.1	172.9	202.7	232.6	279.2	319.8	343.7	313.2	335.0	420.9	329.1
Western Europe[b]	139.9	155.5	183.5	256.0	350.4	358.7	409.2	461.0	540.0	705.0	845.4	746.9	710.0	682.2	691.8	517.8
Japan	8.9	19.8	23.9	38.4	61.9	57.9	64.9	71.3	79.9	109.8	141.3	142.9	131.5	126.4	136.2	96.2
Developing market economies	55.4	62.8	68.6	96.3	153.1	181.0	195.2	234.9	280.3	330.5	439.7	492.9	471.2	432.4	427.7	150.7
Fuel exporters[c]	9.6	11.1	13.7	19.9	32.2	51.4	63.4	84.4	94.8	98.1	131.6	155.7	171.3	145.4	129.0	27.9
Non-fuel exporters	45.8	51.6	54.9	76.5	121.0	129.6	131.8	150.5	185.5	232.4	308.0	337.2	299.9	286.9	298.7	122.8
European centrally planned economies	30.2	32.7	40.4	53.1	67.5	87.8	92.1	100.9	118.0	133.9	154.0	154.5	152.3	157.2	159.2	117.6
Eastern Europe	18.4	20.2	24.2	32.2	42.7	50.8	54.0	60.0	67.3	76.1	85.4	81.3	74.6	77.0	79.1	57.0
Soviet Union	11.7	12.5	16.2	20.9	24.8	36.9	38.1	40.9	50.7	57.8	68.5	73.2	77.7	80.2	80.1	60.5
Total above	313.4	349.4	411.9	565.6	813.9	865.3	974.5	1 115.7	1 297.2	1 617.9	1 977.0	1 956.4	1 851.7	1 801.4	1 904.8	1 246.6
Memorandum item																
ECE region	239.1	266.8	319.4	430.9	598.9	626.5	714.4	809.5	937.0	1 177.6	1 396.1	1 320.6	1 249.0	1 242.6	1 340.9	999.7

Source: IMF, *International Financial Statistics*, February 1986 and ECE secretariat calculations, based on national statistical publications for the European centrally planned economies.

[a] January-September

[b] ECE secretariat estimates based on information in the sources indicated above for Austria, Belgium-Luxembourg, Denmark, Finland, France, the Federal Republic of Germany, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom.

[c] OPEC members, plus Bahrain, the Congo, Mexico, Syrian Arab Republic, Trinidad and Tobago, and Tunisia.

APPENDIX TABLE C.2

World trade: volume change, by region

(Annual percentage change)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Exports																
Developed market economies	10.3	6.4	8.4	13.0	8.6	−4.6	11.9	4.9	6.3	6.4	3.6	2.6	−1.4	2.4	9.4	4.8
North America	8.8	0.8	9.1	20.0	5.3	−3.4	5.6	2.6	11.4	8.8	4.7	−1.7	−7.5	−2.3	11.4	1.2
Western Europe [a]	10.0	6.4	8.5	11.4	7.8	−5.7	12.6	5.1	5.3	6.6	0.9	2.9	1.0	3.1	7.5	6.1
Japan	15.7	18.3	6.4	7.0	20.5	−0.3	21.1	8.5	0.7	0.2	17.1	10.6	−2.3	8.7	16.0	5.6
Developing market economies [b]	10.2	7.1	11.8	9.3	−0.2	−6.5	11.7	1.5	3.0	7.8	−1.6	−3.7	−7.5	2.3	7.8	0.5 [c]
Fuel exporters [d]	15.1	6.1	9.1	8.2	−4.9	−13.6	13.8	0.2	−4.2	4.3	−14.7	−14.9	−16.4	−4.7	3.4	−5.5 [c]
Non-fuel exporters	5.7	8.1	14.3	10.3	4.1	0.1	9.8	2.6	9.8	11.1	10.8	6.8	0.9	8.9	12.0	4.1 [c]
European centrally planned economies	8.5	6.0	7.8	11.7	5.4	5.1	8.0	9.5	4.9	4.6	2.4	1.5	5.1	5.7	6.0	−0.5
Eastern Europe	10.8	8.6	12.2	9.6	7.7	7.1	7.6	8.6	6.1	7.6	2.9	1.2	5.6	7.4	8.3	2.1
Soviet Union	6.1	3.2	2.7	14.4	2.6	2.5	8.6	10.6	3.4	0.6	1.6	1.9	4.5	3.3	2.5	−4.0
Total above	10.1	6.6	9.5	11.7	5.5	−4.4	11.5	4.2	5.2	6.7	1.9	0.5	−2.8	2.6	8.6	2.7
Memorandum item																
ECE region	2.5	5.0	8.6	13.5	6.9	−3.8	10.4	5.1	6.7	6.8	2.0	1.6	−0.5	2.2	8.2	4.0
Imports																
Developed market economies	10.3	5.1	10.3	12.2	0.5	−7.6	14.7	3.6	6.2	7.8	−1.5	−2.9	−0.4	4.5	10.8	5.6
North America	2.0	8.9	14.0	6.8	0.8	−10.6	18.6	8.7	8.8	2.1	−6.8	2.6	−7.1	11.0	22.9	6.4
Western Europe [a]	12.0	4.6	8.3	11.1	0.6	−5.8	14.2	1.8	5.2	9.3	1.1	−5.0	2.1	2.6	6.2	6.2
Japan	18.7	−0.3	13.9	30.5	−0.8	−12.2	8.9	2.5	6.7	11.3	−5.0	−2.2	−0.5	1.2	10.8	0.1
Developing market economies [b]	11.3	7.9	5.2	13.5	16.1	8.5	6.4	9.0	7.5	1.6	8.8	6.0	−4.3	−1.9	2.7	0.4 [c]
Fuel exporters [d]	10.0	6.8	10.6	20.6	38.5	41.4	20.6	16.7	3.4	−8.5	12.4	20.1	−0.5	−12.7	−4.3	−7.4 [c]
Non-fuel exporters	11.7	8.2	3.5	11.2	8.9	−2.1	1.7	6.6	8.9	4.9	7.6	1.5	−5.5	1.6	5.0	2.9 [c]
European centrally planned economies	11.6	7.5	12.1	13.4	8.3	8.4	6.9	3.2	8.6	1.5	3.9	−0.1	1.5	3.7	5.0	4.8
Eastern Europe	14.3	8.6	8.6	12.5	13.6	4.2	6.9	4.9	5.2	1.7	1.2	−5.2	−5.8	3.4	5.6	4.6
Soviet Union	7.8	5.9	17.2	14.6	1.0	14.8	7.0	0.9	13.3	1.1	7.5	6.4	9.7	4.0	4.4	5.0
Total above	10.7	6.1	9.1	12.6	5.3	−2.0	11.8	5.0	6.8	5.6	1.7	−0.2	−1.3	2.7	8.2	4.2
Memorandum item																
ECE region	9.5	6.0	10.1	10.3	1.6	−5.3	14.4	3.7	6.5	6.6	−0.5	−2.6	−0.2	4.8	10.1	6.2

Sources: IMF, *International Financial Statistics*, February 1986; OECD, *Monthly Statistics of Foreign Trade*, Series A, January 1986 for the developed market economies; UNCTAD *Handbook of International Trade and Development Statistics* and IMF, *World Economic Outlook*, 6 October 1985 for developing countries; and ECE secretariat calculations, based on national sources for the European centrally planned economies. For market economies and eastern Europe, weights for aggregations are US dollar trade shares in 1980 and 1975 respectively.

[a] ECE secretariat estimates based on information in the sources indicated above for Austria, Belgium-Luxembourg, Denmark, Finland, France, the Federal Republic of Germany, Italy, Ireland, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom.

[b] IMF definition for developing countries.

[c] IMF estimates for the full year.

[d] OPEC members, plus Bahrain, the Congo, Mexico, Syrian Arab Republic, Trinidad and Tobago, and Tunisia. For 1970-1980, imports into the OPEC countries only.

APPENDIX TABLE C.3

Western Europe and North America: trade volume change

(*Annual percentage change*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Exports																
France	15.9	8.5	14.1	10.3	9.5	−4.0	9.0	6.6	6.1	10.0	2.1	2.9	−3.0	3.4	5.3	2.8
Germany, Federal Republic of	14.5	4.2	6.3	14.0	11.0	−11.2	18.6	4.0	3.2	4.8	1.7	6.6	3.3	−0.3	9.1	7.5
Italy	8.2	7.8	12.4	1.2	7.7	3.7	11.8	7.6	10.8	7.7	−7.8	5.5	−0.5	5.2	6.5	5.7
United Kingdom	2.5	7.0	1.2	13.0	5.3	−2.2	8.6	8.4	2.8	3.8	0.8	−1.1	2.7	0.6	8.3	9.9
Total 4 countries	10.5	6.3	7.5	10.9	8.8	−5.4	13.0	6.1	4.9	6.2	–	3.8	1.2	1.6	7.7	6.7
Austria	7.9	3.2	11.8	7.9	12.5	−7.1	15.7	3.0	10.3	13.0	4.7	5.2	1.1	4.5	9.4	11.8
Belgium	9.8	10.7	14.5	12.7	0.0	−6.3	13.3	5.9	3.3	5.4	2.0	–	2.0	3.9	4.7	3.1
Denmark	5.4	5.1	8.1	6.0	7.0	−3.9	4.1	3.9	6.3	10.7	7.5	3.0	1.9	8.6	6.1	4.2
Finland	6.9	−4.8	15.3	7.4	0.0	−17.8	18.3	9.9	7.7	9.5	8.7	3.0	−1.9	3.0	11.5	2.4
Ireland	8.2	7.3	6.0	9.4	5.7	7.8	3.8	17.7	10.3	8.4	7.5	0.8	7.2	12.0	19.2	7.6
Netherlands	10.2	9.3	8.5	14.1	13.7	−4.8	13.9	−2.2	3.4	8.8	1.0	–	–	5.0	5.7	6.1
Norway	6.4	2.0	11.8	10.5	–	3.2	15.4	−2.7	23.3	5.6	5.3	−2.0	−1.0	12.4	10.1	4.6
Sweden	10.2	6.2	7.2	17.6	5.7	−9.8	4.8	1.1	8.0	7.4	−2.0	1.0	3.0	12.5	6.8	3.3
Switzerland	6.8	3.2	6.2	11.6	3.9	−8.8	12.3	12.2	4.3	2.1	2.0	4.0	−2.9	–	6.9	6.6
Total 9 countries	8.7	6.4	10.0	12.3	6.0	−6.2	11.9	3.3	6.3	7.2	2.5	1.2	0.7	6.0	7.2	5.2
Total 13 countries	9.9	6.3	8.4	11.4	7.8	−5.7	12.6	5.2	5.4	6.5	0.8	2.9	1.0	3.1	7.5	6.1
United States	8.3	−1.0	8.9	23.9	8.7	−2.2	3.6	0.4	12.0	11.3	6.7	−3.1	−10.6	−6.4	6.8	−0.5
Canada	9.9	5.2	9.5	10.7	−3.7	−7.3	11.9	9.0	9.9	1.8	−1.3	2.7	1.9	8.8	22.2	5.7
Total above	9.6	4.8	8.6	13.7	7.1	−5.1	10.6	4.5	7.0	7.1	1.9	1.6	−1.4	1.7	8.5	5.0
Imports																
France	6.6	7.6	14.1	13.5	4.3	−7.1	20.8	0.8	5.2	11.6	6.3	−3.4	3.6	−1.9	2.3	3.3
Germany, Federal Republic	18.5	8.2	6.4	5.6	−4.0	−0.3	17.7	2.4	6.8	7.5	0.0	−5.0	1.4	3.9	5.2	4.0
Italy	15.7	0.5	10.9	11.2	−5.6	−10.7	15.7	−0.4	7.5	13.1	2.8	−11.3	3.3	1.4	9.0	13.9
United Kingdom	4.8	3.7	10.0	13.7	0.3	−8.6	6.5	1.8	6.7	8.4	−3.8	−3.9	4.2	7.7	9.5	6.9
Total 4 countries	12.0	5.4	9.7	10.3	−1.5	−5.9	15.3	1.4	6.5	9.7	1.1	−5.6	2.9	2.9	6.2	6.3
Austria	18.2	8.6	14.4	10.6	2.7	−6.7	23.0	9.8	−1.6	10.7	6.3	−4.1	−1.3	6.3	8.6	6.3
Belgium	9.6	8.8	9.7	16.2	1.3	−5.0	13.2	3.5	4.5	6.5	1.0	−4.0	1.0	−1.0	4.2	2.0
Denmark	11.0	−3.7	3.8	19.8	−6.2	−6.6	18.8	−2.0	4.0	5.8	−8.3	−5.0	3.2	5.1	7.8	5.9
Finland	22.0	−1.4	4.2	12.2	8.4	0.0	−4.4	−8.1	−5.1	18.7	12.4	−6.0	1.1	3.2	–	3.8
Ireland	3.3	5.0	6.3	20.1	−1.9	−13.4	15.1	12.9	14.5	14.4	−4.5	2.1	−3.4	3.1	10.4	4.8
Netherlands	12.1	3.1	3.0	11.6	7.8	−4.8	12.7	1.1	6.7	6.3	−2.0	−7.0	0.0	3.2	6.3	7.9
Norway	12.1	1.5	–	12.1	9.5	–	11.1	7.8	−11.3	4.7	11.1	−4.0	4.2	−5.0	15.8	11.0
Sweden	11.5	−4.4	6.2	8.7	14.7	2.3	5.7	−3.2	−5.6	15.3	2.0	−6.0	5.3	4.0	3.9	10.3
Switzerland	13.8	6.1	5.7	6.8	−1.3	−17.9	15.6	9.5	9.9	9.0	3.1	3.0	−1.9	3.0	7.7	5.4
Total 9 countries	12.3	3.1	5.9	12.5	4.3	−5.5	12.2	2.7	2.8	8.7	1.2	−4.0	0.8	2.2	6.4	6.1
Total 13 countries	12.1	4.6	8.3	11.1	0.6	−5.7	14.1	1.9	5.1	9.3	1.1	−5.0	2.1	2.6	6.3	6.2
United States	3.2	8.7	13.4	4.8	−1.4	−11.9	21.7	10.8	10.2	0.2	−7.1	2.5	−5.0	10.4	23.9	6.8
Canada	−3.2	10.0	16.7	16.2	10.1	−5.4	7.9	0.5	3.1	11.1	−5.7	2.8	−15.9	14.0	18.5	3.4
Total above	9.0	5.8	10.0	9.8	0.6	−7.2	15.4	3.9	6.3	7.0	−1.2	−2.9	−0.6	5.0	11.2	6.2

Source: [illegible] *International Financial Statistics*. Aggregation with 1980 US trade share weights.

[a] January-September

APPENDIX TABLE C.4

Eastern Europe and USSR: export value, by main destinations

(Billion US dollars)

Exports from/to:	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* a
Bulgaria																
World	2.00	2.18	2.63	3.24	3.84	4.69	5.38	6.35	7.45	8.86	10.39	10.70	11.44	12.14	12.86	13.3
ECE-East	1.51	1.65	2.01	2.47	2.74	3.51	4.10	4.82	5.52	6.19	6.91	6.96	7.77	8.89	9.31	9.8
ECE-West	0.32	0.34	0.39	0.48	0.55	0.55	0.69	0.75	0.87	1.54	1.92	1.70	1.53	1.48	1.49	1.5
Other	0.17	0.19	0.22	0.29	0.55	0.64	0.59	0.78	1.07	1.13	1.56	2.03	2.14	1.77	2.07	2.0
Czechoslovakia																
World	3.79	4.18	4.92	5.99	7.03	8.36	9.03	10.27	11.75	13.19	14.93	14.91	15.64	16.50	17.20	17.5
ECE-East	2.45	2.68	3.28	3.91	4.30	5.49	6.20	6.97	7.97	8.72	9.49	9.63	10.46	11.23	11.88	12.4
ECE-West	0.92	1.00	1.12	1.51	1.98	1.97	1.98	2.30	2.57	3.15	3.82	3.53	3.51	3.53	3.57	3.4
Other	0.42	0.51	0.52	0.57	0.76	0.90	0.85	1.00	1.21	1.32	1.61	1.74	1.67	1.74	1.75	1.7
German Democratic Republic																
World	4.58	5.08	6.18	7.52	8.75	10.09	11.36	12.02	13.27	15.06	17.31	19.86	21.74	23.79	24.84	25.0
ECE-East	3.13	3.51	4.40	5.21	5.61	6.86	7.47	8.30	9.22	10.32	11.07	12.22	12.92	14.30	15.12	15.0
ECE-West	1.10	1.20	1.43	1.87	2.60	2.50	3.03	2.80	2.94	3.47	4.58	5.87	6.71	7.53	7.85	8.2
Other	0.35	0.36	0.36	0.44	0.54	0.73	0.86	0.92	1.11	1.27	1.66	1.77	2.12	1.97	1.86	1.8
Hungary																
World	2.32	2.50	3.29	4.37	5.13	6.06	4.93	5.82	6.35	7.93	8.61	8.73	8.86	8.77	8.62	8.5
ECE-East	1.44	1.62	2.16	2.80	3.23	4.11	2.73	3.26	3.45	4.15	4.34	4.66	4.63	4.33	4.18	4.4
ECE-West	0.69	0.68	0.89	1.26	1.49	1.45	1.68	1.97	2.22	2.91	3.27	2.90	2.93	3.19	3.33	2.9
Other	0.19	0.20	0.24	0.31	0.41	0.51	0.59	0.68	0.87	1.00	1.17	1.30	1.24	1.11	1.1	
Poland																
World	3.55	3.87	4.93	6.35	8.32	10.29	11.02	12.27	13.77	16.22	17.02	13.29	11,22	11.58	11.76	11.5
ECE-East	2.14	2.30	2.98	3.68	4.39	5.83	6.26	7.00	7.92	9.27	8.92	7.43	5.53	5.86	5.69	5.6
ECE-West	1.09	1.24	1.60	2.28	3.17	3.49	3.76	4.13	4.66	5.42	6.21	4.22	3.99	4.17	4.54	4.5
Other	0.32	0.34	0.34	0.39	0.76	0.97	1.00	1.15	1.19	1.52	1.89	1.64	1.70	1.55	1.53	1.3
Romania																
World	1.85	2.10	2.60	3.67	4.87	5.34	6.14	7.02	8.05	9.72	11.40	11.18	10.12	10.16	10.72	11.2
ECE-East	0.93	1.01	1.24	1.66	1.76	2.05	2.34	2.92	3.30	3.51	4.28	3.37	3.26	3.45	3.11	3.8
ECE-West	0.66	0.80	0.97	1.42	2.22	2.03	2.40	2.37	2.95	3.93	4.39	4.16	3.48	3.77	4.20	3.7
Other	0.26	0.30	0.39	0.59	0.89	1.26	1.40	1.72	1.80	2.29	2.73	3.65	3.38	2.95	3.41	3.8
Eastern Europe																
World	18.09	19.91	24.56	31.14	37.94	44.83	47.86	53.76	60.64	70.99	79.66	78.66	79.02	82.94	86.00	87.0
ECE-East	11.60	12.76	16.07	19.72	22.03	27.84	29.10	33.27	37.37	42.15	45.02	44.27	44.57	48.06	49.30	51.1
ECE-West	4.78	5.25	6.41	8.83	12.01	11.99	13.54	14.33	16.21	20.43	24.19	22.38	22.15	23.67	24.98	24.2
Other	1.71	1.90	2.07	2.58	3.91	5.00	5.21	6.16	7.06	8.41	10.44	12.01	12.31	11.21	11.72	11.7
USSR																
World	12.80	13.81	15.47	21.26	27.36	33.28	37.16	45.18	52.34	64.71	76.50	79.39	86.97	91.38	91.20	86.5
ECE-East	6.76	7.24	8.17	9.93	11.48	16.44	17.38	20.74	24.88	28.29	32.24	33.78	36.21	39.24	39.72	40.4
ECE-West	2.78	3.16	3.44	5.62	9.24	9.62	11.68	13.55	14.46	21.78	28.13	27.49	29.55	30.20	30.06	25.7
Other	3.26	3.41	3.86	5.71	6.64	7.23	8.11	10.89	12.99	14.64	16.13	18.12	21.21	21.94	21.42	20.4
Eastern Europe and USSR																
World	30.89	33.72	40.02	52.40	65.30	78.11	85.03	98.94	112.98	135.71	156.16	158.05	165.99	174.32	177.19	173.5
ECE-East	18.36	20.00	24.24	29.65	33.51	44.28	46.49	54.01	62.26	70.44	77.26	78.05	80.77	87.30	89.01	91.4
ECE-West	7.56	8.41	9.85	14.45	21.25	21.61	25.22	27.88	30.67	42.20	52.33	49.87	51.70	53.87	55.03	49.9
Other	4.97	5.31	5.93	8.29	10.55	12.22	13.32	17.05	20.05	23.06	26.57	30.13	33.52	33.16	33.15	32.1

Source: Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Partner country grouping: ECE-East—east European member countries of CMEA and the Soviet Union; ECE-West—ECE market economies and Japan; Other—all remaining countries.

Eastern Europe and USSR: import value by main origins

(Billion US dollars)

Imports to/from:	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Bulgaria																
World	1.83	2.12	2.57	3.21	4.33	5.40	5.63	6.39	7.62	8.51	9.67	10.80	11.54	12.29	12.72	13.6
ECE-East	1.33	1.57	1.98	2.41	2.84	3.72	4.14	4.91	5.97	6.60	7.30	7.77	8.58	9.42	9.74	10.0
ECE-West	0.38	0.39	0.43	0.56	1.07	1.35	1.12	1.08	1.20	1.42	1.79	2.29	2.04	1.86	1.91	2.2
Other	0.12	0.16	0.16	0.23	0.42	0.33	0.36	0.41	0.46	0.49	0.58	0.74	0.93	1.01	1.07	1.3
Czechoslovakia																
World	3.70	4.01	4.67	6.07	7.51	9.09	9.70	11.15	12.57	14.25	15.18	14.67	15.45	16.37	17.13	17.6
ECE-East	2.35	2.56	3.06	3.83	4.44	5.88	6.33	7.32	8.45	9.43	9.86	9.93	10.86	11.96	12.86	13.1
ECE-West	1.01	1.12	1.22	1.69	2.34	2.52	2.68	2.87	3.23	3.84	4.21	3.80	3.59	3.39	3.14	3.3
Other	0.33	0.32	0.39	0.55	0.73	0.68	0.69	0.95	0.89	0.98	1.11	1.05	1.00	1.02	1.12	1.2
German Democratic Republic																
World	4.85	4.98	5.90	7.85	9.65	11.29	13.20	14.33	14.57	16.21	19.08	20.18	20.20	21.52	22.94	23.1
ECE-East	3.20	3.24	3.72	4.82	5.41	7.11	7.98	9.29	9.53	9.83	11.29	12.61	12.99	13.40	14.26	15.0
ECE-West	1.35	1.45	1.93	2.67	3.45	3.49	4.43	4.05	4.01	5.34	6.27	6.39	5.96	6.68	7.11	6.5
Other	0.30	0.29	0.26	0.37	0.78	0.69	0.78	1.00	1.03	1.04	1.52	1.18	1.25	1.45	1.58	1.6
Hungary																
World	2.51	2.99	3.15	3.88	5.58	7.15	5.53	6.52	7.94	8.68	9.19	9.16	8.87	8.55	8.13	8.2
ECE-East	1.56	1.89	1.99	2.34	3.01	4.50	2.81	3.23	3.86	4.34	4.31	4.31	4.34	4.13	3.92	4.0
ECE-West	0.72	0.89	0.93	1.21	2.05	2.03	2.09	2.52	3.20	3.46	3.88	3.93	3.48	3.23	3.11	3.4
Other	0.22	0.21	0.24	0.33	0.51	0.63	0.63	0.76	0.88	0.88	1.00	0.92	1.05	1.20	1.10	0.7
Poland																
World	3.61	4.04	5.33	7.76	10.49	12.55	13.88	14.63	15.70	17.55	19.12	15.53	10.25	10.60	10.65	10.8
ECE-East	2.37	2.59	3.09	3.82	4.41	5.47	6.22	7.26	8.08	9.01	10.11	9.62	5.99	6.27	6.12	5.8
ECE-West	0.98	1.18	1.89	3.49	5.41	6.31	6.92	6.44	6.52	6.87	6.92	4.72	3.35	3.29	3.42	3.8
Other	0.26	0.27	0.34	0.45	0.66	0.76	0.74	0.93	1.11	1.66	2.08	1.19	0.91	1.04	1.11	1.1
Romania																
World	1.96	2.10	2.62	3.44	5.14	5.34	6.10	7.02	8.88	10.92	13.20	10.98	8.32	7.64	7.56	8.7
ECE-East	0.95	0.97	1.18	1.38	1.65	1.97	2.43	2.93	3.28	3.72	4.08	3.46	3.10	3.31	2.91	3.4
ECE-West	0.81	0.89	1.14	1.58	2.64	2.39	2.32	2.65	3.56	4.07	4.35	3.63	2.05	1.48	1.62	1.6
Other	0.20	0.24	0.31	0.49	0.85	0.98	1.35	1.43	2.04	3.13	4.76	3.88	3.18	2.85	3.03	3.6
Eastern Europe																
World	18.45	20.24	24.25	32.21	42.69	50.82	54.03	60.04	67.29	76.12	85.44	81.32	74.63	76.98	79.12	81.9
ECE-East	11.76	12.83	15.01	18.59	21.76	28.65	29.90	34.94	39.17	42.93	46.95	47.60	45.85	48.48	49.81	51.4
ECE-West	5.25	5.91	7.53	11.20	16.97	18.09	19.57	19.61	21.72	25.00	27.43	24.76	20.47	19.93	20.31	20.9
Other	1.43	1.49	1.70	2.42	3.96	4.08	4.55	5.48	6.40	8.19	11.05	8.96	8.31	8.57	9.01	2.6
USSR																
World	11.73	12.48	16.16	20.91	24.85	36.94	38.11	40.89	50.74	57.78	68.53	73.16	77.67	80.20	80.09	82.5
ECE-East	6.63	7.26	9.34	10.89	11.35	15.67	16.22	18.82	24.63	26.67	29.43	29.40	33.49	37.05	37.37	38.8
ECE-West	3.02	3.11	4.46	6.37	8.61	14.10	14.98	14.26	17.33	21.23	25.70	28.24	28.98	27.65	26.88	26.5
Other	2.08	2.12	2.36	3.66	4.89	7.17	6.91	7.80	8.78	9.89	13.40	15.52	15.21	15.50	15.85	17.2
Eastern Europe and USSR																
World	30.18	32.72	40.40	53.13	67.53	87.76	92.13	100.92	118.03	133.91	153.97	154.48	152.30	157.19	159.21	164.5
ECE-East	18.39	20.08	24.35	29.49	33.11	44.32	46.12	53.76	63.80	69.60	76.38	77.00	79.34	85.53	87.17	90.2
ECE-West	8.27	9.03	11.99	17.56	25.58	32.19	34.56	33.88	39.05	46.22	53.13	53.00	49.44	47.58	47.18	47.4
Other	3.52	3.61	4.07	6.08	8.85	11.25	11.46	13.28	15.18	18.08	24.46	24.48	23.52	24.07	24.86	26.8

Source: Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Partner country grouping: ECE-East—east European member countries of CMEA and the Soviet Union; ECE-West—ECE market economies and Japan, Other—all remaining countries.

[a] Preliminary data or ECE secretariat estimates.

APPENDIX TABLE C.6

East-west trade: value of western exports, by country of origin

(*Million US dollars*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Austria	368	387	457	627	1 078	1 279	1 286	1 418	1 671	1 998	2 108	1 808	1 743	1 868	1 907	1 871
Belgium-Luxembourg	170	183	268	498	821	846	791	760	851	1 058	1 308	1 107	908	1 091	934	994
Denmark	113	141	140	188	265	293	268	270	318	354	371	270	213	213	262	293
Finland	361	329	448	530	898	1 312	1 504	1 707	1 754	1 810	2 814	3 707	3 756	3 460	2 768	3 077
France	647	730	950	1 306	1 604	2 601	2 732	2 782	2 919	4 031	4 643	3 906	2 811	3 331	2 959	2 796
Germany, Federal Republic of [b]	1 296	1 527	2 199	3 753	5 562	6 458	6 247	6 647	7 714	8 692	9 443	7 587	7 526	7 719	7 105	7 137
Greece	106	85	117	166	239	261	288	337	388	359	520	343	333	318	278	302
Iceland	14	16	22	24	41	41	41	62	49	64	83	71	58	60	71	67
Ireland	7	6	7	12	30	33	20	29	38	71	111	75	63	81	49	70
Italy	701	740	780	983	1 647	2 167	1 960	2 271	2 413	2 637	2 728	2 469	2 446	2 710	2 475	2 571
Netherlands	210	251	354	495	754	792	762	816	942	1 145	1 420	1 386	994	1 078	840	906
Norway	60	62	94	139	198	254	274	275	319	246	266	262	211	219	163	166
Portugal	7	6	7	10	19	42	82	80	74	95	91	84	86	79	85	109
Spain	67	64	121	115	201	255	302	284	354	547	546	787	428	516	584	718
Sweden	337	310	327	524	786	1 094	1 033	943	984	1 176	1 195	1 035	814	699	749	758
Switzerland	209	213	285	427	598	744	794	885	1069	1069	1063	852	811	774	751	882
Turkey	83	81	87	101	145	122	166	174	323	301	481	320	312	228	261	280
United Kingdom	595	591	654	762	992	1 292	1 178	1 456	1 872	2 049	2 628	2 028	1 505	1 431	1 748	1 475
Yugoslavia	538	669	785	968	1 451	1 871	2 028	1 904	2 327	2 663	3 976	5 348	5 355	4 551	4 674	5 192
Western Europe [c]	6 560	7 116	9 027	12 758	18 755	23 359	23 469	24 990	28 647	32 993	38 707	35 912	32 999	33 145	30 914	32 291
Canada	132	165	350	371	162	599	786	545	743	991	1 773	1 893	2 035	1 679	1 861	1 158
United States	352	382	817	1 797	1 428	2 778	3 497	2 531	3 664	5 660	3 843	4 255	3 585	2 879	4 167	3 342
North America	485	548	1 167	2 168	1 590	3 377	4 283	3 076	4 408	6 652	5 616	6 148	5 620	4 558	6 028	4 500
Japan	446	536	735	810	1 674	2 198	2 798	2 669	3 197	3 264	3 584	4 012	4 472	3 564	3 007	3 330
Developed market economies [c]	7 492	8 200	10 930	15 736	22 020	28 935	30 552	30 736	36 252	42 910	47 907	46 072	43 092	41 267	39 948	40 121

Source: United Nations commodity trade data (COMTRADE); OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1986; IMF, *Direction of Trade Statistics*, Washington, February 1986; national statistical publications. Data cover reported exports to six east European countries (Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania) and the Soviet Union.

[a] Extrapolations, based on January-October growth rates.

[b] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[c] Including trade between the Federal Republic of Germany and the German Democratic Republic.

APPENDIX TABLE C.7

East-west trade: value of western imports, by country of destination

(*Million US dollars*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Austria	322	369	427	578	843	919	1 053	1 208	1 345	1 706	2 288	2 415	2 092	1 955	2 197	2 149
Belgium-Luxembourg	170	208	255	375	538	580	558	683	785	1 009	1 540	1 390	1 766	1 461	2 137	1 592
Denmark	138	130	149	258	397	494	541	457	528	712	785	562	625	572	661	602
Finland	397	468	465	615	1 414	1 470	1 504	1 674	1 676	2 463	3 564	3 521	3 475	3 425	3 040	2 845
France	424	535	667	940	1 253	1 615	1 901	2 118	2 448	3 141	5 075	4 770	4 116	3 894	3 661	3 487
Germany, Federal Republic of [b]	1 032	1 188	1 441	2 180	2 862	3 083	3 880	4 331	5 434	7 722	8 259	7 312	7 485	7 348	8 022	7 810
Greece	91	92	111	161	174	242	359	344	584	522	536	518	469	423	720	641
Iceland	14	18	21	26	65	55	59	67	62	94	101	87	88	84	85	89
Ireland	28	33	38	50	90	87	87	113	126	183	137	107	123	129	139	142
Italy	733	799	1 005	1 354	1 766	1 780	2 298	2 424	2 606	3 450	4 873	4 369	4 790	4 849	5 636	4 435
Netherlands	200	239	294	416	610	749	888	986	1 148	1 711	2 163	2 507	3 090	3 139	2 741	3 147
Norway	79	159	132	173	220	242	334	385	311	386	360	387	559	472	489	424
Portugal	8	20	18	25	31	76	149	150	121	188	204	249	116	114	90	85
Spain	59	57	121	176	306	425	396	321	352	519	713	794	798	807	834	615
Sweden	307	312	333	473	779	1 017	1 055	1 062	1 008	1 645	1 507	1 187	1 441	1 602	1 390	1 357
Switzerland	130	137	154	239	353	334	484	582	818	1 098	1 373	1 189	1097	954	888	842
Turkey	102	100	146	156	229	217	282	297	335	536	657	692	351	645	771	610
United Kingdom	550	562	628	812	1 048	1 394	1 758	2 060	2 140	2 777	2 755	1 555	1 835	1 809	2 183	2 000
Yugoslavia	539	716	726	1 059	1 553	1 691	1 971	2 319	2 577	3 169	4 048	4 439	4 388	4 049	3 540	3 477
Western Europe [c]	5 876	6 815	7 878	11 069	15 796	17 838	21 107	23 300	26 361	35 551	44 004	40 727	41 441	40 422	41 940	38 899
Canada	64	79	101	131	182	153	182	176	188	251	225	227	155	162	200	184
United States	225	222	320	525	890	728	864	915	1 254	1 354	1 413	1 596	1 105	1 404	2 242	2 059
North America	290	302	421	656	1 073	882	1 047	1 091	1 443	1 606	1 638	1 823	1 261	1 566	2 442	2 243
Japan	493	487	589	1 061	1 493	1 213	1 216	1 466	1 479	1 983	1 896	1 571	1 386	1 502	1 604	1 441
Developed market economies [c]	6 660	7 605	8 889	12 787	18 362	19 933	23 371	25 857	29 284	39 141	47 538	44 121	44 088	43 490	45 986	42 583

Source: United Nations commodity trade data (COMTRADE); OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1986; IMF, *Direction of Trade Statistics*, Washington, February 1986; national statistical publications. Data cover reported imports from six east European countries (Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania) and the Soviet Union. Imports are converted to f.o.b. terms wherever appropriate.

[a] Extrapolations, based on January-October growth rates.

[b] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[c] Including trade between the Federal Republic of Germany and the German Democratic Republic.

APPENDIX TABLE C.8

East-west trade: western trade balances by western country

(Million US dollars)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Austria	46	17	29	49	239	359	233	209	325	291	– 180	– 606	– 349	– 87	– 290	– 279
Belgium-Luxembourg	0	– 24	12	123	283	265	232	76	65	48	– 232	– 283	– 858	– 370	– 1203	– 597
Denmark	– 24	10	– 9	– 69	– 132	– 200	– 273	– 186	– 209	– 358	– 414	– 292	– 412	– 359	– 399	– 308
Finland	– 36	– 139	– 16	– 85	– 515	– 157	0	32	77	– 652	– 750	186	281	35	– 273	232
France	222	195	282	365	350	986	831	663	470	890	– 432	– 865	– 1 306	– 563	– 701	– 692
Germany, Federal Republic of [b]	263	339	757	1 572	2 700	3 374	2 366	2 316	2 280	970	1 185	275	41	371	– 917	– 673
Greece	15	– 6	5	4	64	18	– 71	– 6	– 195	– 163	– 16	– 175	– 137	– 105	– 442	– 339
Iceland	0	– 2	1	– 1	– 23	– 13	– 17	– 5	– 13	– 30	– 18	– 16	– 31	– 24	– 15	– 22
Ireland	– 21	– 26	– 30	– 37	– 59	– 53	– 67	– 84	– 88	– 112	– 27	– 32	– 61	– 48	– 90	– 72
Italy	– 31	– 58	– 224	– 370	– 119	386	– 338	– 153	– 193	– 813	– 2 145	– 1 900	– 2 345	– 2 139	– 3 161	– 1 864
Netherlands	9	11	59	79	144	43	– 125	– 169	– 205	– 566	– 743	– 1 122	– 2 096	– 2 061	– 1 901	– 2 241
Norway	– 19	– 97	– 37	– 34	– 22	11	– 59	– 109	7	– 140	– 94	– 125	– 348	– 253	– 326	– 258
Portugal	– 0	– 13	– 10	– 14	– 11	– 33	– 67	– 69	– 46	– 92	– 112	– 165	– 30	– 35	– 5	24
Spain	7	7	– 0	– 61	– 104	– 170	– 93	– 36	2	28	– 167	– 6	– 370	– 291	– 250	103
Sweden	30	– 2	– 5	50	6	76	– 22	– 118	– 24	– 469	– 312	– 152	– 628	– 903	– 640	– 599
Switzerland	79	76	130	187	245	410	310	302	250	– 29	– 310	– 337	– 286	– 180	– 136	40
Turkey	– 18	– 19	– 58	– 55	– 84	– 95	– 115	– 123	– 11	– 235	– 176	– 371	– 40	– 416	– 509	– 330
United Kingdom	45	28	33	– 49	– 56	– 101	– 580	– 603	– 268	– 727	– 127	473	– 330	– 378	– 435	– 524
Yugoslavia	– 1	– 46	59	– 91	– 101	180	57	– 415	– 249	– 505	– 72	911	967	502	1 133	1 716
Western Europe [c]	684	300	1 149	1 688	2 959	5 520	2 362	1 690	2 286	– 2 558	– 5 297	– 4 815	– 8 442	– 7 277	– 11 026	– 6 607
Canada	67	86	248	240	– 20	446	603	369	554	739	1 548	1 666	1 880	1 518	1 661	974
United States	126	159	497	1 271	538	2 049	2 633	1 616	2 410	4 306	2 429	2 659	2 480	1 474	1 924	1 283
North America	194	246	745	1 511	517	2 495	3 236	1 985	2 964	5 046	3 977	4 325	4 360	2 992	3 585	2 257
Japan	– 46	48	146	– 250	181	984	1 582	1 202	1 717	1 280	1 688	2 441	3 087	2 062	1 403	1 889
Developed market economies [c]	832	595	2 041	2 949	3 657	9 001	7 181	4 879	6 968	3 768	369	1 951	– 996	– 2 223	– 6 038	– 2 461

Source: United Nations commodity trade data (COMTRADE), OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1986, IMF, *Direction of Trade Statistics*, Washington, February 1986; national statistical publications. Data cover reported balances (f.o.b.-f.o.b.) with six east European countries (Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania) and the Soviet Union.

[a] Extrapolations, based on January-October growth rates.

[b] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[c] Including trade between the Federal Republic of Germany and the German Democratic Republic.

Appendix table C.9

East-west trade: western exports, imports and balances by eastern trade partner

(*Million US dollars*)

	1970	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985* [a]
Western exports to:																
Bulgaria	349	352	383	537	913	1 154	1 002	942	1 147	1 307	1 710	1 967	1 641	1 680	1 573	1 929
Czechoslovakia	865	1 026	1 118	1 461	1 914	2 101	2 295	2 250	2 565	3 066	3 302	2 785	2 714	2 498	2 424	2 555
German Democratic Republic	1143	1 274	1 626	1 955	2 541	2 909	3 190	3 264	3 986	5 270	5 718	5 273	4 692	5 041	4 398	4 286
Hungary	671	799	884	1 163	1 878	1 912	1 903	2 405	3 104	3 133	3 468	3 461	3 139	2 856	2 785	3 089
Poland	922	1 113	1 746	3 232	4 668	5 593	5 633	5 144	5 725	6 210	6 670	4 469	3 385	3 115	3 228	3 493
Romania	727	786	1 038	1 431	2 157	2 091	2 103	2 394	3 081	3 881	4 016	3 108	1 771	1 366	1 453	1 506
Eastern Europe	4 680	5 353	6 797	9 782	14 074	15 762	16 129	16 403	19 610	22 870	24 884	21 062	17 344	16 556	15 860	16 857
Soviet Union	2 812	2 847	4 133	5 954	7 946	13 173	14 422	14 333	16 642	20 039	22 949	24 943	25 690	24 649	24 089	23 264
Total	7 492	8 200	10 930	15 736	22 020	28 935	30 552	30 736	36 252	42 910	47 833	46 006	43 033	41 205	39 948	40 121
Western imports (f.o.b.) from:																
Bulgaria	246	267	289	387	462	428	522	556	634	972	1 072	939	890	774	792	774
Czechoslovakia	807	909	1 024	1 373	1 703	1 825	1 899	2 078	2 390	3 041	3 529	3 170	3 100	3 096	3 169	2 977
German Dem. Rep.	988	1 142	1 312	1 749	2 302	2 533	2 753	3 045	3 509	4 351	5 356	5 154	5 378	5 360	5 269	5 057
Hungary	540	603	812	1 119	1 376	1 287	1 483	1 792	2 068	2 635	2 905	2 613	2 424	2 499	2 707	2 728
Poland	1 032	1 197	1 490	2 116	2 819	3 182	3 611	3 851	4 329	5 035	5 439	3 605	3 382	3 378	3 996	4 007
Romania	543	624	795	1 136	1 619	1 676	2 059	1 978	2 401	3 258	3 439	3 469	2 571	2 732	3 662	3 426
Eastern Europe	4 159	4 745	5 725	7 883	10 284	10 934	12 330	13 303	15 334	19 295	21 740	18 950	17 746	17 839	19 594	18 969
Soviet Union	2 501	2 860	3 163	4 904	8 078	8 999	11 040	12 553	13 949	19 846	25 799	25 171	26 342	25 652	26 392	23 614
Total	6 660	7 605	8 889	12 787	18 362	19 933	23 371	25 857	29 284	39 141	47 538	44 121	44 088	43 490	45 986	42 583
Western trade balances with:																
Bulgaria	102	84	93	149	450	725	480	386	512	334	638	1 027	752	906	781	1 155
Czechoslovakia	57	116	94	87	210	275	395	172	174	25	−227	−385	−386	−598	−745	−423
German Democratic Republic	155	132	314	205	239	375	437	218	477	918	361	118	−686	−319	−870	−772
Hungary	130	196	71	44	502	625	419	613	1 035	498	564	848	715	357	78	361
Poland	−110	−83	255	1 116	1 848	2 410	2 021	1 292	1 395	1 174	1 232	865	3	−263	−769	−514
Romania	184	162	242	295	537	414	44	416	680	622	577	−361	−801	−1 366	−2 210	−1 920
Eastern Europe	520	608	1 071	1 899	3 789	4 828	3 799	3 099	4 275	3 575	3 145	2 113	−402	−1 283	−3 735	−2 111
Soviet Union	311	−12	969	1 050	−131	4 173	3 381	1 779	2 693	193	−2 850	−228	−652	−1 002	−2 303	−350
Total	832	595	2 041	2 949	3 657	9 001	7 181	4 879	6 968	3 768	295	1 885	−1 054	−2 285	−6 038	−2 461

Source: As for Appendix tables C.6-C.8.

[a] Extrapolations, based on January-October.

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